ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 0007055
CSBRG-0007-00(055)
Union County
GDOT District 1 - Gainesville
Bridge Replacement: SR 180 @ Slaughter Creek

OFFICE Design Policy & Support

DATE 4/18/2016

FROM for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT **APPROVED CONCEPT REPORT**

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Darryl VanMeter, State Innovative Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Eric Duff, State Environmental Administrator
Bill DuVall, State Bridge Engineer
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Lee Upkins, State Utilities Engineer
Richard Cobb, Statewide Location Bureau Chief
Brent Cook, District Engineer
Brandon Kirby, District Preconstruction Engineer
Robby Oliver, District Utilities Engineer
Dylan Curtis, Project Manager
BOARD MEMBER - 9th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
PROJECT CONCEPT REPORT

Project Type:	Bridge Replacement	P.I. Number:	0007055
GDOT District:	1	County:	Union
Federal Route Number:	N/A	State Route Number:	SR 180
	Project Number:	CSBRG-0007-00(055)	

Project Description: The proposed project, approximately 0.1 miles in length, will replace the existing bridge (Structure ID 291-0017-0, SR 180 over Slaughter Creek) due to insufficient structural integrity.

Submitted for approval:

Stephen Linley, Long Engineering — Date: 11/23/15

Local Government Sponsor — Date

Albert V. Shelby — Date: 12-14-15
State Program Delivery Engineer

GDOT Project Manager — Date: 12/2/15

Recommendation for approval: *(Delete any inapplicable signature lines)*

HIRAL PATEL*/EKP — State Environmental Administrator — Date: 1/15/2016

KEN WERHO*/EKP — for State Traffic Engineer — Date: 12/22/2015

LISA MYERS*/EKP — Project Review Engineer — Date: 12/29/2015

for MERISHIA ROBINSON*/EKP — State Utilities Engineer — Date: 12/22/2015

District Engineer — Date

BILL DUVALL*/EKP — State Bridge Engineer — Date: 1/4/2016

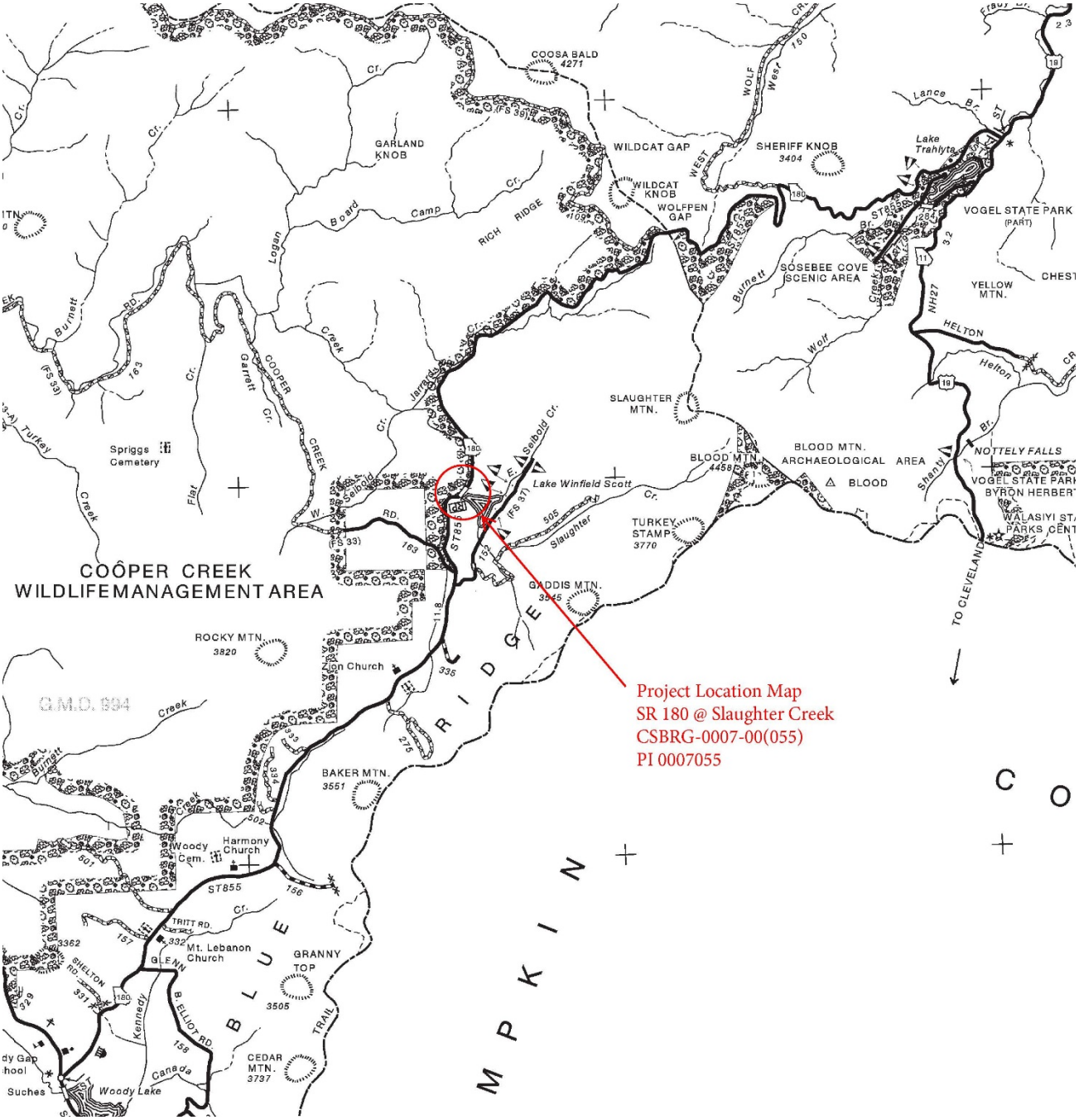
☐ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☒ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

CINDY VANDYKE*/EKP — State Transportation Planning Administrator — Date: 1/5/2016

* - RECOMMENDATION ON FILE

PROJECT LOCATION MAP



PLANNING AND BACKGROUND

Project Justification Statement (prepared by the GDOT Office of Bridge Design): The bridge on SR 180 over Slaughter Creek, Structure ID 291-0017-0, was built in 1931. The bridge consists of two spans of steel beams on concrete caps and concrete columns. This bridge was designed using an H-15 vehicle, which is below current design standards. This bridge is classified as structurally deficient. The deck is in poor condition with deck spalls and concrete cracking up to 1/8". The superstructure is in satisfactory condtion. The substructure is in fair condition with heavy concrete cracking with efflorescence. Bent 2 has moderate to heavy flexture with efflorescence. The bridge is classified as having an unknown foundation and therefore could be at a risk for scour. Due to the structural integrity of the bridge pertaining to the design vehicle, the bridge being classified as structurally deficient, and the unknown foundation of the substructure, replacement of this bridge is recommended.

Existing conditions: SR 180 is an existing two-lane facility (one lane in each direction) and is functionally classified as a rural major collector within the project limits. The existing bridge over Slaughter Creek is 20 feet wide and 72 feet long. The posted speed along SR 180 south and through the bridge is 25 mph. North of the bridge the speed limit increases to 35 mph. The proposed project area lies within a school bus route. SR 180 is part of the Statewide Bicyle Plan within the project limits.

Other projects in the area:

- 0009950 - Reconstruct existing Y-intersection of US 19/SR 9 and SR 60 into a roundabout.
- M005214 – Maintenance and resurfacing of 5.33 miles of SR 60 between US 19/GA 9 and the Union County Line.
- 0013598 – SR 11/US 19 Bridge Replacement over Boggs Creek in Lumpkin County.

MPO: N/A - Project not in MPO

TIP #: N/A

TIA Regional Commission:

Congressional District(s): 9

Federal Oversight: ☐ PoDI ☒ Exempt ☐ State Funded ☐ Other

Projected Traffic: *ADT or AADT* 24 HR T: 8.0 %
Current Year (2015): 940 Open Year (2020): 1060 Design Year (2040): 1740
Traffic Projections Performed by: Michael Baker International

Functional Classification (Mainline): Rural Major Collector

Complete Streets - Bicycle, Pedestrian, and/or Transit Standard Warrants:

Warrants met: ☐ None ☒ Bicycle ☒ Pedestrian ☐ Transit

SR 180 is designated State Bicycle Route 90 on the Georgia Bicycle and Pedestrian State Route Network. Patrons of the Lake Windfield Scott Recreational Area use the existing bridge to traverse between trails along each side of the lake.

Is this a 3R (Resurfacing, Restoration, & Rehabilitation) Project? ☒ No ☐ Yes

Pavement Evaluation and Recommendations

Initial Pavement Evaluation Summary Report Required? ☒ No ☐ Yes
Intial Pavement Type Selection Report Required? ☒ No ☐ Yes
Feasible Pavement Alternatives: ☒ HMA ☐ PCC ☐ HMA & PCC

DESIGN AND STRUCTURAL

Description of the proposed project: The project includes a two lane bridge replacement along SR 180 @ Slaughter Creek in Union County. The total project length is approximately 0.1 miles.

Major Structures:

Structure	Existing	Proposed
Structure ID 291-0017-0 SR 180 over Slaughter Creek	The existing structure is 72 feet in length and consists of two, 9 foot lanes with no shoulders. The bridge sufficiency rating is 56.40.	The proposed structure is 100 feet in length and consists of two, 11 foot lanes with 6 foot shoulders.

Mainline Design Features: SR 180 over Slaughter Creek/Major Rural Collector

Feature	Existing	Standard*	Proposed
Typical Section			
- **Number of Lanes**	**2**	**2**	**2**
- **Lane Width(s)**	**10**	**11**	**11**
- **Median Width & Type**	**N/A**	**N/A**	**N/A**
- **Outside Shoulder or Border Area Width**	**2 ft**	**8 ft (4 ft paved)**	**8 ft (6.5 ft paved)**
- **Outside Shoulder Slope**	**12%**	**6%**	**6%**
- **Inside Shoulder Width**	**N/A**	**N/A**	**N/A**
- **Sidewalks**	**N/A**	**N/A**	**N/A**
- **Auxiliary Lanes**	**N/A**	**N/A**	**N/A**
- **Bike Lanes**	**0**	**Incorporated in Paved Shoulder**	**Incorporated in Paved Shoulder**
Posted Speed	**25 MPH**		**25 MPH**
Design Speed	**25 MPH**	**Varies/25 MPH Here**	**25 MPH**
Min Horizontal Curve Radius	**216**	**144**	**216**
Maximum Superelevation Rate	**12%**	**6%**	**6%**
Maximum Grade	**7.8%**	**10%**	**7.5%**
Access Control	**Partial**	**Partial**	**Partial**
Design Vehicle	**SU**	**SU**	**SU**
Pavement Type	**HMA**	**N/A**	**HMA**

*According to current GDOT design policy if applicable

Major Interchanges/Intersections: None

Lighting required: ☒ No ☐ Yes

Off-site Detours Anticipated: ☐ No ☒ Yes ☐ Undetermined
Due to the physical and environmental constraints of the project corridor an offsite detour was selected. The detour route is approximately 23.5 and utilizes SR 180, SR 60 and US 19/SR 11. A detour meeting will be held at a later date.

Transportation Management Plan [TMP] Required: ☐ No ☒ Yes
If Yes: Project classified as: ☒ Non-Significant ☐ Significant
TMP Components Anticipated: ☒ TTC ☐ TO ☐ PI

Design Exceptions to FHWA/AASHTO controlling criteria anticipated:

FHWA/AASHTO Controlling Criteria	No	Undeter-mined	Yes	Appvl Date (if applicable)
1. Design Speed	☒	☐	☐	
2. Lane Width	☒	☐	☐	
3. Shoulder Width	☒	☐	☐	
4. Bridge Width	☒	☐	☐	
5. Horizontal Alignment	☒	☐	☐	
6. Superelevation	☒	☐	☐	
7. Vertical Alignment	☒	☐	☐	
8. Grade	☒	☐	☐	
9. Stopping Sight Distance	☒	☐	☐	
10. Cross Slope	☒	☐	☐	
11. Vertical Clearance	☒	☐	☐	
12. Lateral Offset to Obstruction	☒	☐	☐	
13. Bridge Structural Capacity	☒	☐	☐	

Design Variances to GDOT Standard Criteria anticipated:

GDOT Standard Criteria	Reviewing Office	No	Undeter-mined	Yes	Appvl Date (if applicable)
1. Access Control/Median Openings	DP&S	☒	☐	☐	
2. Intersection Sight Distance	DP&S	☒	☐	☐	
3. Intersection Skew Angle	DP&S	☒	☐	☐	
4. Lateral Offset to Obstruction	DP&S	☒	☐	☐	
5. Rumble Strips	DP&S	☒	☐	☐	
6. Safety Edge	DP&S	☒	☐	☐	
7. Median Usage	DP&S	☒	☐	☐	
8. Roundabout Illumination Levels	DP&S	☒	☐	☐	
9. Complete Streets	DP&S	☐	☒	☐	
10. ADA & PROWAG	DP&S	☒	☐	☐	
11. GDOT Construction Standards	DP&S	☒	☐	☐	
12. GDOT Drainage Manual	DP&S	☒	☐	☐	
13. GDOT Bridge & Structural Manual	Bridges	☒	☐	☐	

VE Study anticipated: ☒ No ☐ Yes ☐ Completed – Date:

UTILITY AND PROPERTY

Temporary State Route needed: ☒ No ☐ Yes ☐ Undetermined

Railroad Involvement: None

Utility Involvements: The following utilities are located along the project corridor:

- Blue Ridge Mountain EMC
- Windstream Telephone

- North Georgia Networks

SUE Required: ☒ No ☐ Yes ☐ Undetermined

Public Interest Determination Policy and Procedure recommended? ☒ No ☐ Yes

Right-of-Way (ROW): Existing width: 132 ft. Proposed width: 132 ft.
Required Right-of-Way anticipated: ☐ None ☐ Yes ☒ Undetermined
Easements anticipated: ☒ None ☐ Temporary ☐ Permanent ☐ Utility ☐ Other
Check all easement types that apply.

Anticipated total number of impacted parcels:		1
Displacements anticipated:	Businesses:	0
	Residences:	0
	Other:	0
	Total Displacements:	0

Location and Design approval: ☐ Not Required ☒ Required

Impacts to USACE property anticipated? ☒ No ☐ Yes ☐ Undetermined

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern:

1. There are potential impacts to wetlands and stream buffers.
2. SR 180 is part of a state designated bicycle route – State Bicycle Route 90 – and does not currently have bike lanes at the project location.
3. This project is located adjacent to the Lake Winfield Scott Recreation Area.

Context Sensitive Solutions Proposed:

1. The design will utilize retaining walls and guardrail with 2:1 maximum slopes to minimize impacts to the stream buffers and wetlands.
2. Paved shoulders will be designed to provide bicyclists adequate space to travel more safely adjacent to motorized vehicle traffic.
3. The project will be designed to avoid impacts to the recreational area. Orange barrier fencing will be utilized to highlight the sensitivity of this area.

ENVIRONMENTAL & PERMITS

Anticipated Environmental Document:

GEPA: ☐ **NEPA:** ☒ CE ☐ EA/FONSI ☐ EIS

MS4 Permit Compliance – Is the project located in a MS4 area? ☒ No ☐ Yes

Environmental Permits/Variances/Commitments/Coordination anticipated:

Permit/ Variance/ Commitment/ Coordination Anticipated	No	Yes	Remarks
1. U.S. Coast Guard Permit	☒	☐	
2. Forest Service/Corps Land	☐	☒	
3. CWA Section 404 Permit	☐	☒	
4. 33 USC 408 Decision	☒	☐	
5. Tennessee Valley Authority Permit	☐	☒	
6. Buffer Variance	☐	☒	
7. Coastal Zone Management Coordination	☒	☐	
8. NPDES	☐	☒	
9. FEMA	☒	☐	
10. Cemetery Permit	☒	☐	
11. Other Permits	☒	☐	
12. Other Commitments	☐	☒	
13. Other Coordination	☐	☒	USFS

Is a PAR required? ☒ No ☐ Yes ☐ Completed – Date:

Environmental Comments and Information:

NEPA/GEPA: The anticipated environmental document for this project is a Categorical Exclusion. The project corridor traverses through USFS property. The southeastern quadrant of the project area is a designated recreational area and subject to Section 4(f) regulations.

Ecology: Five waters of the U.S. have been identified in the project area. Potential habitat has been identified for protected bats and one state protected species. SP 107.23H will be implemented to protect bats and listed species.

History: On June 16th, 2015 the Department concurred with the Finding of No Historic Properties Affected by the subject project. The Department letter states that SHPO concurrence in not required.

Archeology: Either a short form with GDOT concurrence or a Phase I with SHPO concurrence is anticipated.

Air Quality:

Is the project located in a PM 2.5 Non-attainment area? ☒ No ☐ Yes
Is the project located in an Ozone Non-attainment area? ☒ No ☐ Yes
Carbon Monoxide hotspot analysis: ☐ Required ☒ Not Required ☐ TBD

Noise Effects: A Type III noise study is anticipated.

Public Involvement: Meetings were held with the USFS and Union County representatives including the EMS, Commissioner's Office, Fire Department and the School District on May 11th, 2015. A PIOH is scheduled for the spring of 2016.

Major stakeholders: USFS, traveling public, bicyclists, emergency services and schools will be major stakeholders.

CONSTRUCTION

Issues potentially affecting constructability/construction schedule: *T*o maintain existing low chord elevation of the proposed bridge will require an increase in elevation in the vicinity of the bridge of approximately 1.50 feet. There could be schedule limitations due to threatened or endangered species in the project area. The area is also more prone to winter weather which could cause construction delays. The use of Accelerated Bridge Construction (ABC) techniques is a viable option to reduce road closure time and allow the project to be constructed in a shortened construction season. This would entail the use of drilled shaft foundations and precast substructure units (columns and caps) and precast superstructure units (beams and deck) that would be cast off site and transported to the site for installation. This technique would minimize the time that SR 180 is closed to traffic.

Early Completion Incentives recommended for consideration: ☒ No ☐ Yes

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Initial Concept Meeting: N/A

Concept Meeting: 10/26/15

Other coordination to date: USFS – 5/11/15, Union County – 5/11/15

Project Activity	Party Responsible for Performing Task(s)
Concept Development	Long Engineering
Design	Long Engineering
Right-of-Way Acquisition	GDOT
Utility Coordination (Preconstruction)	GDOT
Utility Relocation (Construction)	Utility Owner
Letting to Contract	GDOT
Construction Supervision	GDOT
Providing Material Pits	GDOT
Providing Detours	GDOT
Environmental Studies, Documents, & Permits	Long Engineering
Environmental Mitigation	GDOT
Construction Inspection & Materials Testing	GDOT

Project Cost Estimate Summary and Funding Responsibilities: *Add additional rows as necessary; Attach current cost estimates to report.*

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
Funded By	GDOT	GDOT	GDOT	GDOT	GDOT	
$ Amount	$433,190	$55,000	$27,000	$2,091,089	$0	$2,606,279
Date of Estimate	5/6/09	1/23/16	9/30/15	3/10/16	03/10/16	

*CST Cost includes: Construction, Engineering and Inspection, Contingencies and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Alternative selection:

Preferred Alternative: Replace bridge on new alignment by removing substandard deflection in alignment with horizontal curve flattening to the north. Superevelation constant throughout the length of the bridge.			
Estimated Property Impacts:	**1**	**Estimated Total Cost:**	**$2,606,279**
Estimated ROW Cost:	**$15,000**	**Estimated CST Time:**	**12 months**
Rationale: This alternative would replace the existing bridge by permantly re-aligning 400 feet of SR 180 to the north. The realignment of SR 180 would remove the substandard horizontal deflection angle of the existing alignment from the SW approach. The alternative will also increase the horizontal stopping sight distance to meet the minimum requirements for 25 mph and provide accomodations for pedestrian movements across the bridge and dam. Bicycle movements will facilitated by incorporation of a bicycle lane in the paved shoulder on the southbound lane. The Type of Bikeway on the northbound lanes will remain as shared lanes. Per Table 2-3 of the AASHTO Guide for the Development of Bicycle Facilities this is appropriate for the volume and physical constraints along SR 180.			

No-Build Alternative: Road and bridge to remain as-is.			
Estimated Property Impacts:	**None**	**Estimated Total Cost:**	**$200,000 (PE)**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**N/A**
Rationale: Eliminated due to age and rating of existing bridge.			

Alternative 1: Replace bridge on existing alignment and remove substandard deflection angle in horizontal alignment extending tangent and realigning roadway away from the creek.			
Estimated Property Impacts:	**1**	**Estimated Total Cost:**	**$1,624,739**
Estimated ROW Cost:	**$15,000**	**Estimated CST Time:**	**18 months**
Rationale: This alternative would replace the existing bridge at its current location and remove the substandard horizontal deflection angle by permantly re-aligning 600 feet of SR 180 to the south. Although this alternative meets the Project Justification, the new alignment would infringe upon the Lake Winfield Scott Recreational Area and would also require an approximate 40 foot cut into the existing terrain.			

Alternative 2: Replace bridge on new alignment by removing substandard deflection in alignment with horizontal curve flattening to the north with minimum allowable curve radii. Superevelation is variable throughout the length of the bridge.			
Estimated Property Impacts:	**1**	**Estimated Total Cost:**	**$1,693,830**
Estimated ROW Cost:	**$15,000**	**Estimated CST Time:**	**12 months**
Rationale: This alternative would replace the existing bridge by permantly re-aligning 400 feet of SR 180 to the north. The realignment of SR 180 would remove the substandard horizontal deflection angle of the existing alignment from the SW approach. Although this alternative meets the Project Justification, constructability of the bridge would be much more difficult than the Preferred Alternative due to the variable superelevation occurring within the bridge limits.			

Alternative 3: Replace bridge on existing alignment.

Estimated Property Impacts:	**1**	**Estimated Total Cost:**	**$1,160,797**
Estimated ROW Cost:	**$15,000**	**Estimated CST Time:**	**12 months**
Rationale: This alternative would replace the existing bridge at its current location but not address the substandard horizontal deflection angle from the SW approach. Although this alternative meets the Project Justification, an approximate 45 degree deflection angle in the alignment would remain. Representatives of Union County expressed a desire for this jog in the roadway to be fixed during early public outreach on May 11th, 2015.			

LIST OF ATTACHMENTS/SUPPORTING DATA

1. Concept Layout
2. Typical sections
3. Detailed Cost Estimates:
    a. Construction including Engineering and Inspection and Contingencies
    b. Completed Liquid AC Cost Adjustment forms
    c. Right-of-Way
    d. Utilities
    e. Enviromental Mitigation
4. Traffic diagrams
5. Bridge Inventory Report
6. Preliminary Pavement Design
7. Minutes of Concept Team Meeting
8. Minutes of Coordination Meetings
9. Alternatives 1-3
10. Proposed detour

APPROVALS

Concur: _____
Director of Engineering

Approve: Margaret B. Pirkle _____ 4.11.16
Chief Engineer Date

CONCEPT LAYOUT

DATE$$	TIME$$	$PRFB$	DGN	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GA			

PREFERRED ALTERNATIVE

ESA-50' BUFFER PERENNIAL STREAM 1

ESA-PERENNIAL STREAM 1

ESA-WETLAND 2

WALL NO. 1

WALL NO. 2

WALL NO. 3

ESA-PERENNIAL STREAM 5

ESA-50' BUFFER PERENNIAL STREAM 4

ESA-PERENNIAL STREAM 4

EXIST R/W

BACK R/W

ESA-50' BUFFER PERENNIAL STREAM 1

ESA-50' BUFFER OPEN WATER 3

ESA-OPEN WATER 3

ESA-50' BUFFER PERENNIAL STREAM 4

ESA-50' BUFFER OPEN WATER 3

PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
REQ'D R/W & LIMIT OF ACCESS
ORANGE BARRIER FENCE
ESA - ENV. SENSITIVE AREA (SEE ERIT 4-)

LONG ENGINEERING, INC.

SCALE IN FEET
0 50 100 200

REVISION DATES

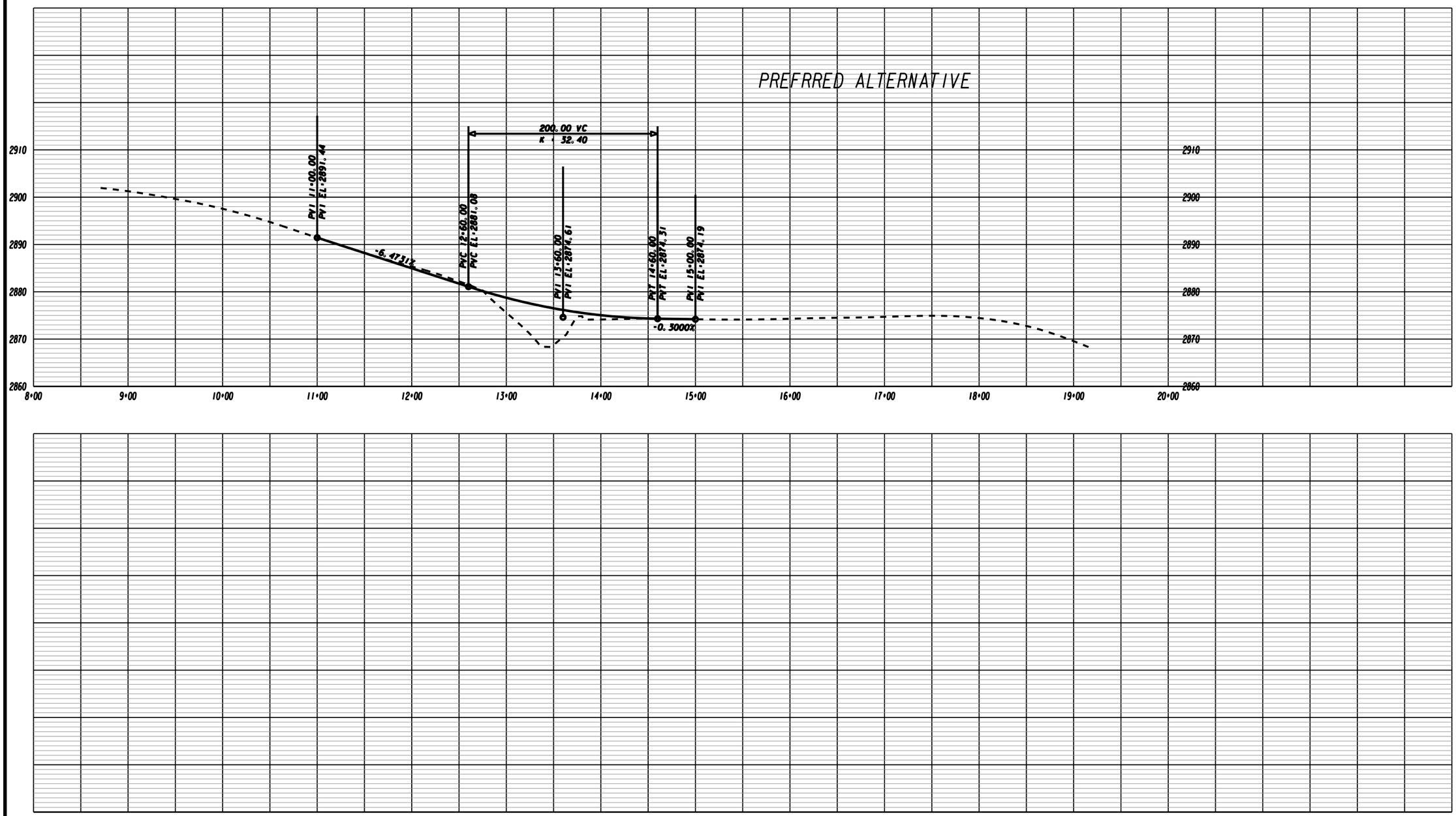
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

DRAWING No.

14-MAR-2016	11:25	$PRFB$	P:\LE1 PROJECTS\0526-0010 SR180 at Slaughter Creek\02 - Design Files\01 - DGN\01 - Roadway\0007055_Prof_Exhbits.dgn	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
slinley		P:\LE1 PROJECTS\0526-0010 SR180 at Slaughter Creek\02 - Design Files\01 - DGN\01 - Roadway\GaDOT_Rdwy.pen		GA			

P:\LE1 PROJECTS\0526-0010 SR180 at Slaughter Creek\02 - Design Files\01 - DGN\01 - Roadway\0007055_Prof.dgn



11/30/2011 GRADG

LONG ENGINEERING, INC.

HORIZ: 1"=50'
VERT: 1"=10'

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

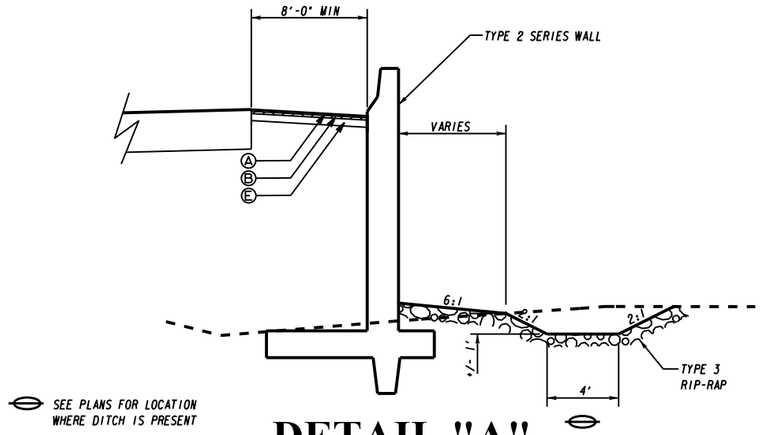
OFFICE:

MAINLINE PROFILE

DRAWING No.
15-001

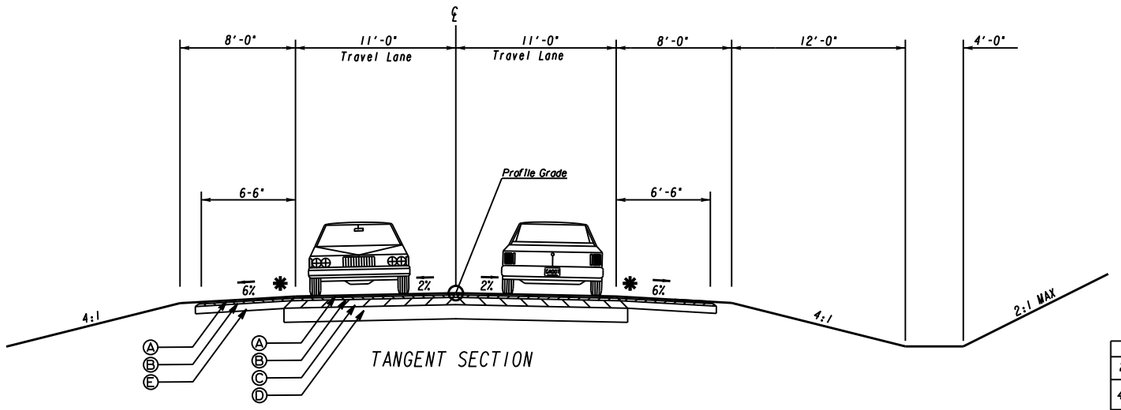
TYPICAL SECTIONS

P:\LE1 PROJECTS\0026-0010 SR180 at Slaughter Creek\02 - Design Files\01 - DGN\02 - Structures\01 - Concept\0007055dw.dgn



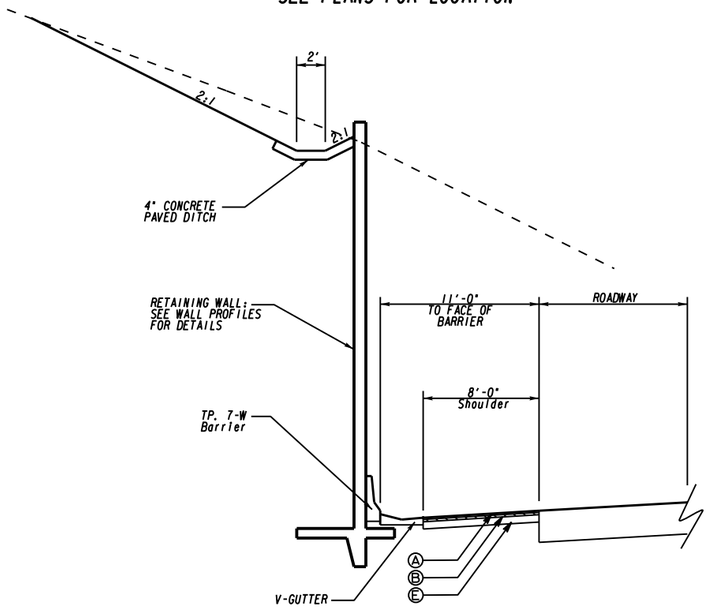
DETAIL "A"

TYPICAL DETAIL FOR
FILL WALL AT EDGE OF SHOULDER
SEE PLANS FOR LOCATION



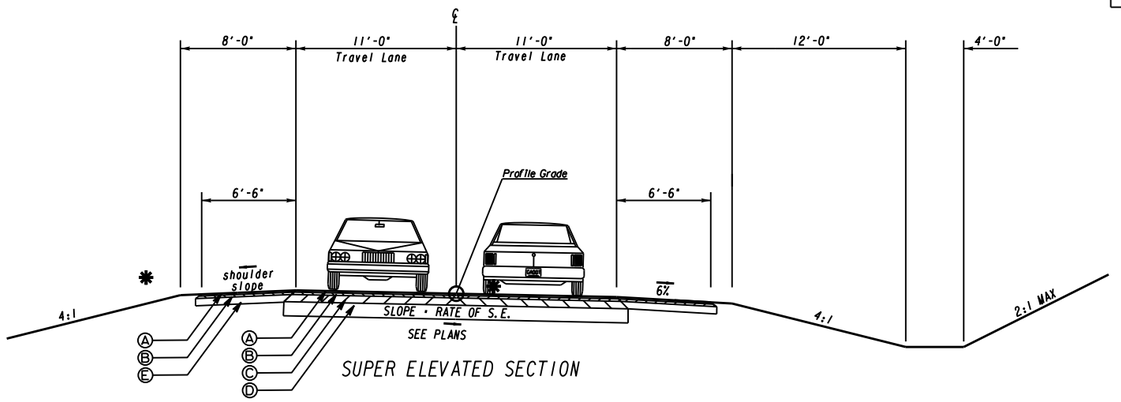
TANGENT SECTION

S.E. RATE	shoulder slope
2.0% OR 3.0%	4.0%
4.0% OR 5.0%	2.0%
6.0% OR 7.0%	1.0%
8.0 % +	0.0%



DETAIL "B"

TYPICAL DETAIL FOR
CUT WALL AT EDGE OF SHOULDER
SEE PLANS FOR LOCATION



SUPER ELEVATED SECTION

REQUIRED PAVEMENT

- Ⓐ 135 LBS/SY RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM & H LIME
- Ⓑ 220 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- Ⓒ 330 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- Ⓓ GRADED AGGREGATE BASE, 8"
- Ⓕ GRADED AGGREGATE BASE, 6" (ALT NO. 1)
- Ⓕ 330 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME (ALT NO.2)
- ✱ GROUND IN PLACE RUMBLE STRIPS (SKIP)

LONG ENGINEERING, INC.

REVISION DATES

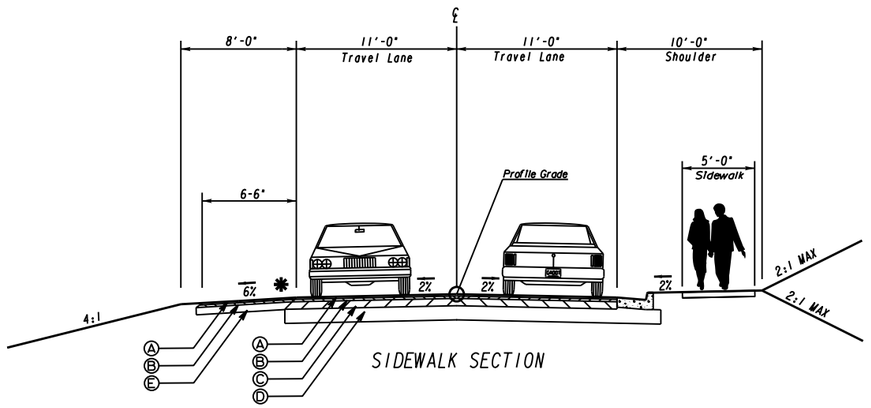
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TYPICAL SECTIONS

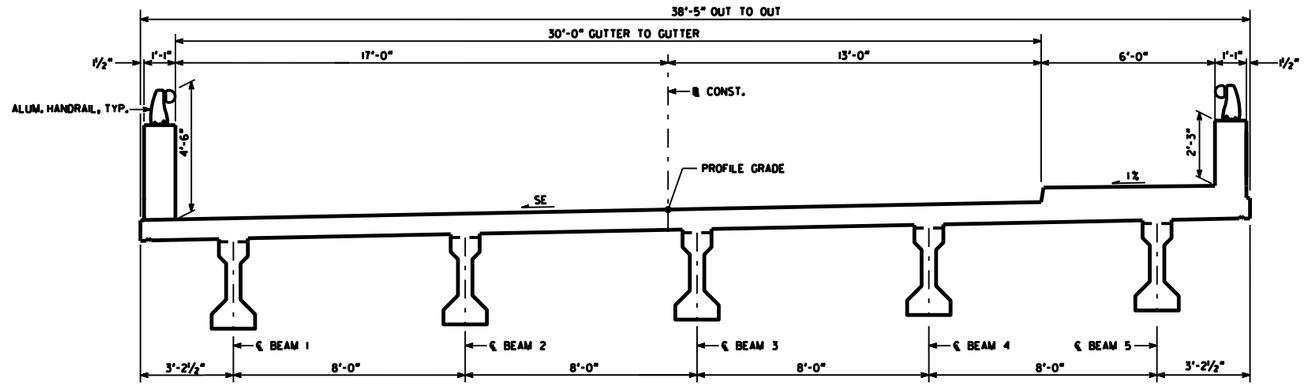
SR 180 @ SLAUGHTER CREEK

DRAWING No. 05-001

12/14/2012 GPW



SIDEWALK SECTION



BRIDGE TYPICAL SECTION

LONG ENGINEERING, INC.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TYPICAL SECTIONS

SR 180 @ SLAUGHTER CREEK

DRAWING No. 05-002

12/14/2012 GPLN

CONSTRUCTION ESTIMATE

JOB DETAIL ESTIMATE

JOB NUMBER : 0007-00(055) SPEC YEAR: 13
DESCRIPTION: SR 180 @ SLAUGHTER CREEK

ITEMS FOR JOB 0007-00(055)

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0005	150-1000		LS	TRAFFIC CONTROL - CSBRG-0007-00(055)	1.000	50000.00	50000.00
0010	210-0100		LS	GRADING COMPLETE - CSBRG-0007-00(055)	1.000	300000.00	300000.00
0015	310-1101		TN	GR AGGR BASE CRS, INCL MATL	550.000	27.18	14950.97
0020	318-3000		TN	AGGR SURF CRS	200.000	24.49	4898.92
0025	402-3103		TN	REC AC 9.5 MM SP,TPII,GP2, INCL BM & H L	125.000	149.10	18638.21
0030	402-3121		TN	RECYL AC 25MM SP,GP1/2,BM&HL	100.000	97.93	9793.15
0035	402-3190		TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	200.000	98.37	19674.72
0040	413-0750		GL	TACK COAT	225.000	2.52	567.00
0045	433-1100		SY	REF CONC APPR SL/INCL CURB	162.000	195.76	31713.77
0046	436-1000		LF	ASPH CONC CURB - 6" INCH	350.000	13.00	4551.82
0048	441-0104		SY	CONC SIDEWALK, 4 IN	150.000	60.12	9018.87
0050	441-0204		SY	PLAIN CONC DITCH PAVING, 4 IN	100.000	42.24	4224.93
0052	441-3999		LF	CONCRETE V GUTTER	350.000	22.92	8024.01
0053	441-6222		LF	CONC CURB & GUTTER/ 8X30TP2	300.000	30.20	9060.08
0055	550-1180		LF	STM DR PIPE 18,H 1-10	200.000	42.65	8530.74
0060	550-4218		EA	FLARED END SECT 18 IN, ST DR	1.000	693.75	693.75
0065	641-1100		LF	GUARDRAIL, TP T	84.000	72.34	6077.22
0070	641-1200		LF	GUARDRAIL, TP W	300.000	20.16	6049.52
0072	641-5001		EA	GUARDRAIL ANCHORAGE, TP 1	1.000	837.64	837.65
0075	641-5012		EA	GUARDRAIL ANCHORAGE, TP 12	3.000	2381.36	7144.10
0080	668-2100		EA	DROP INLET, GP 1	2.000	2264.67	4529.34
0085	668-4300		EA	STORM SEW MANHOLE, TP 1	1.000	2077.77	2077.77
0090	163-0232		AC	TEMPORARY GRASSING	0.500	538.70	269.35
0095	163-0240		TN	MULCH	15.000	387.32	5809.93
0100	163-0300		EA	CONSTRUCTION EXIT	2.000	1612.33	3224.67
0105	163-0520		LF	CONSTR AND REMOVE TEMP PIPE SLOPE DRAIN	200.000	17.95	3591.51
0110	163-0529		LF	CNST/REM TEMP SED BAR OR BLD STRW CK DM	400.000	5.63	2255.04

JOB DETAIL ESTIMATE

0115	163-0541	EA	CONSTR & REM ROCK FILTER DAMS	4.000	673.61	2694.46
0120	163-0550	EA	CONS & REM INLET SEDIMENT TRAP	2.000	170.07	340.15
0125	165-0030	LF	MAINT OF TEMP SILT FENCE, TP C	500.000	2.06	1033.87
0130	165-0071	LF	MAINT OF SEDIMENT BARRIER - BALED STRAW	200.000	2.39	478.07
0135	165-0101	EA	MAINT OF CONST EXIT	2.000	564.68	1129.37
0140	165-0105	EA	MAINT OF INLET SEDIMENT TRAP	2.000	103.60	207.20
0145	165-0110	EA	MAINT OF ROCK FILTER DAM	4.000	238.38	953.52
0150	167-1000	EA	WATER QUALITY MONITORING AND SAMPLING	4.000	180.98	723.93
0155	167-1500	MO	WATER QUALITY INSPECTIONS	9.000	723.39	6510.56
0160	171-0030	LF	TEMPORARY SILT FENCE, TYPE C	1000.000	3.59	3593.19
0165	643-8200	LF	BARRIER FENCE (ORANGE), 4 FT	500.000	1.62	810.48
0170	603-2018	SY	STN DUMPED RIP RAP, TP 1, 18	20.000	55.00	1100.00
0175	603-7000	SY	PLASTIC FILTER FABRIC	20.000	4.53	90.68
0180	700-6910	AC	PERMANENT GRASSING	1.000	893.40	893.40
0185	700-7000	TN	AGRICULTURAL LIME	4.000	131.77	527.08
0190	700-8000	TN	FERTILIZER MIXED GRADE	1.000	697.20	697.20
0195	700-8100	LB	FERTILIZER NITROGEN CONTENT	50.000	4.13	206.69
0200	716-2000	SY	EROSION CONTROL MATS, SLOPES	400.000	1.35	540.01
0205	636-1020	SF	HWY SGN,TP1MAT,REFL SH TP3	20.000	19.07	381.46
0210	636-1033	SF	HWY SIGNS, TP1MAT,REFL SH TP 9	25.000	21.36	534.14
0215	636-2070	LF	GALV STEEL POSTS, TP 7	104.000	9.44	981.86
0220	653-1501	LF	THERMO SOLID TRAF ST 5 IN, WHI	800.000	0.85	683.83
0225	653-1502	LF	THERMO SOLID TRAF ST, 5 IN YEL	800.000	0.74	594.58
0230	657-1054	LF	PRF PL SD PVMT MKG,5,WH,TP PB	200.000	4.48	896.87
0235	657-6054	LF	PRF PL SD PVMT MKG,5,YW,TP PB	200.000	4.19	838.30
0240	654-1001	EA	RAISED PVMT MARKERS TP 1	50.000	5.02	251.05
0245	500-3101	CY	CLASS A CONCRETE	600.000	1198.75	719251.24
0250	627-1000	SF	MSE WALL FACE, 0 - 10 FT HT, WALL NO - WALL NO. 1	1185.000	65.33	77416.54
0255	627-1010	SF	MSE WALL FACE, 10 - 20 FT HT, WALL NO - WALL NO. 1	1220.000	68.69	83803.06
0260	543-9000	LS	CONSTR OF BRIDGE COMPLETE - 100' X 36'2"	1.000	362000.00	362000.00

ITEM TOTAL	1806369.83
INFLATED ITEM TOTAL	1806369.83

TOTALS FOR JOB 0007-00(055)

ESTIMATED COST:	1806369.83
CONTINGENCY PERCENT (0.0):	0.00
ESTIMATED TOTAL:	1806369.83

Concept Cost Estimate Summary
SR 180 over Slaughter Creek Bridge Replacement
CSBRG-0007-00(055)
PI 0007055

Sub-total	$ 1,806,369.83
E&I (5%)	$ 90,318.49
Contingency (10%)	$ 189,668.83
Fuel Adjustment	$ 4,732.09
Total	$ 2,091,089

PROJ. NO.	CSBRG-0007-00(055)
P.I. NO.	0007055
DATE	3/10/2016

CALL NO.

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Mar-16	$ 1.671
DIESEL		$ 2.009
LIQUID AC		$ 355.00

Link to Fuel and AC Index:
http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

Asphalt

Price Adjustment (PA)				**4526.25**	**$ 4,526.25**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	568.00	
Monthly Asphalt Cement Price month project let (APL)			$	355.00	
Total Monthly Tonnage of asphalt cement (TMT)				21.25	

ASPHALT	Tons	%AC	AC ton
Leveling		5.0%	0
12.5 OGFC		5.0%	0
12.5 mm		5.0%	0
9.5 mm SP	125	5.0%	6.25
25 mm SP	100	5.0%	5
19 mm SP	200	5.0%	10
	425		**21.25**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$**	**205.84**	**$ 205.84**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	568.00	
Monthly Asphalt Cement Price month project let (APL)			$	355.00	
Total Monthly Tonnage of asphalt cement (TMT)				0.966397707	

Bitum Tack Gals	gals/ton	tons
225	232.8234	0.96639771

PROJ. NO.	CSBRG-0007-00(055)		CALL NO.
P.I. NO.	0007055		
DATE	3/10/2016		

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)				**0**	**$ -**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	568.00	
Monthly Asphalt Cement Price month project let (APL)			$	355.00	
Total Monthly Tonnage of asphalt cement (TMT)				0	

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0
					0

TOTAL LIQUID AC ADJUSTMENT	**$**	**4,732.09**

R/W ESTIMATE

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date:	1/14/2016	Project:	CSBRG-0007-00-(055)
Revised:	1/23/2016	County:	Union County
		PI:	0007055

Description: Replace Existing Bridge

Project Termini: SR 180 over Slaughtercreek (1) Parcel no ROW Impact

Existing ROW: Varies

Parcels: 1

Required ROW: Varies

Land and Improvements	$0.00
Proximity Damage	*$0.00*
Consequential Damage	*$0.00*
Cost to Cures	*$0.00*
Trade Fixtures	*$0.00*
Improvements	*$0.00*
Valuation Services	$0.00
Legal Services	$38,175.00
Relocation	$2,000.00
Demolition	$0.00
Administrative	$14,500.00
TOTAL ESTIMATED COSTS	$54,675.00
TOTAL ESTIMATED COSTS (ROUNDED)	***$55,000.00***

Preparation Credits	Hours	Signature

Prepared By: LaShone Alexander CG#: 286999 01/23/2016 (DATE)

Approved By: LaShone Alexander CG#: 286999 01/23/2016 (DATE)

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

UTILITY ESTIMATE

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE CSBRG-0007-00(055), Union
PI No. 0007055
SR 180 @ Slaughter Creek

OFFICE GAINESVILLE

FROM Robby Oliver, Distr. Utilities Eng.

DATE September 30, 2015

TO Albert Shelby, P.E., State Program Delivery Engineer
ATTEN Dylan Curtis, Project Manager

SUBJECT PRELIMINARY UTILITY COST ESTIMATE

As requested by your office we are furnishing you with an Updated Preliminary Utility Cost estimate for the subject project.

FACILITY OWNER		NON-REIMBURSABLE		REIMBURSABLE
Power Distribution - EMC		$0		$18,000
Telephone		$0		$4,500
CATV		$0		$4,500

TOTALS $0 $27,000

Total Non-Reimbursable Cost $0

Total Reimbursabe Cost $27,000

If you have any questions, please contact Robby Oliver at 770-531-5772.

NAK

C: Lee Upkin, State Utilities Engineer
Rob Mabry, Area Engineer
File

ENVIRONMENTAL MITIGATION

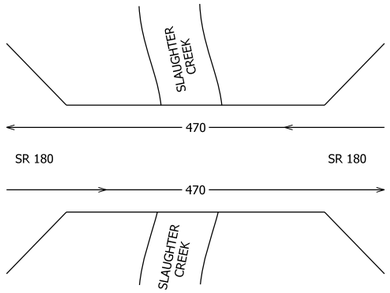
The scope of this memorandum is to summarize the mitigation cost for the Department's approval as part of the SR 180 Bridge Replacement over Slaughter Creek, PI 0007055.

Resource Type	Cost per Credit ($)	Number of Credits	Total Cost ($)
Wetland	$27,000	0.0	$0
Stream	$90	0.0	$0
		Total	**$0**

The mitigation cost estimates shown above are based on the conceptual plans. The impacts shown are below the threshold for mitigation requirements. A more detailed estimate will be provided upon the completion of the Ecology Assessment of Effects Report and the continued development of the construction plans.

TRAFFIC DIAGRAMS

2015 ADT

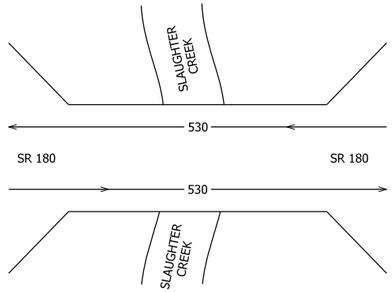


EXISTING 2015 ADT
XXX = ADT

SR 180

24-Hr Trucks	8.0%
SU	6.5%
COMB	1.5%

2020 ADT



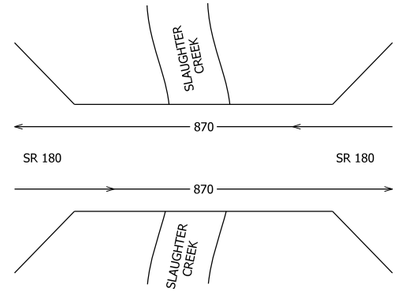
BUILD YEAR 2020 ADT
XXX = ADT

BUILD VOLUMES ARE IDENTICAL TO NO-BUILD VOLUMES

SR 180

24-Hr Trucks	8.0%
SU	6.5%
COMB	1.5%

2040 ADT



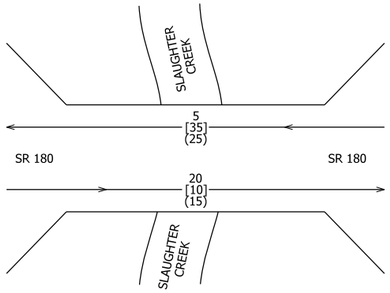
DESIGN YEAR 2040 ADT
XXX = ADT

BUILD VOLUMES ARE IDENTICAL TO NO-BUILD VOLUMES

SR 180

24-Hr Trucks	8.0%
SU	6.5%
COMB	1.5%

2015 DHV

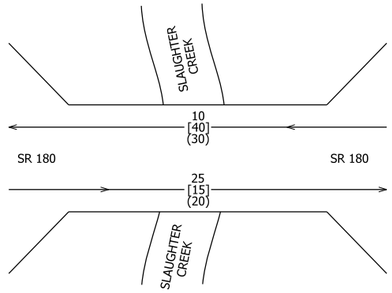


EXISTING 2015 DHV
XXX = AM PEAK
[XXX] = MD PEAK
(XXX) = PM PEAK

SR 180

Peak Hr Trucks	12.0%
SU	10.0%
COMB	2.0%

2020 DHV



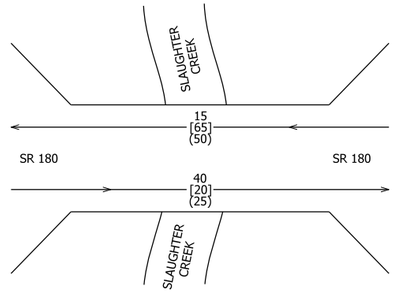
BUILD YEAR 2020 DHV
XXX = AM PEAK
[XXX] = MD PEAK
(XXX) = PM PEAK

BUILD VOLUMES ARE IDENTICAL TO NO-BUILD VOLUMES

SR 180

Peak Hr Trucks	12.0%
SU	10.0%
COMB	2.0%

2040 DHV



DESIGN YEAR 2040 DHV
XXX = AM PEAK
[XXX] = MD PEAK
(XXX) = PM PEAK

BUILD VOLUMES ARE IDENTICAL TO NO-BUILD VOLUMES

SR 180

Peak Hr Trucks	12.0%
SU	10.0%
COMB	2.0%

PI 0007055
UNION COUNTY
SEPTEMBER 24, 2015
KMC/WMR

Michael Baker
INTERNATIONAL
3595 ENGINEERING DRIVE
NORCROSS, GEORGIA 30092
(770) 263-9118

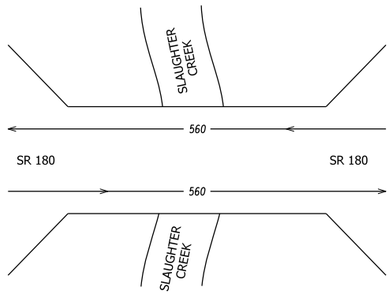
REVISION DATES

TRAFFIC DIAGRAM

SR 180 BRIDGE REPLACEMENT

CHECKED:		DATE:		DRAWING No.
BACKCHECKED:		DATE:		10-001
CORRECTED:		DATE:		
VERIFIED:		DATE:		

2022 ADT

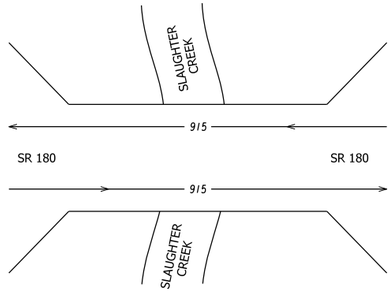


BUILD YEAR +2 2022 ADT
XXX = ADT

BUILD VOLUMES ARE IDENTICAL TO NO-BUILD VOLUMES

SR 180	
24-Hr Trucks	8.0%
SU	6.5%
COMB	1.5%

2042 ADT

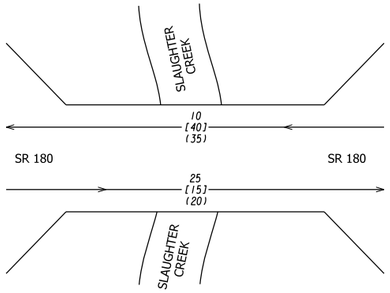


DESIGN YEAR +2 2042 ADT
XXX = ADT

BUILD VOLUMES ARE IDENTICAL TO NO-BUILD VOLUMES

SR 180	
24-Hr Trucks	8.0%
SU	6.5%
COMB	1.5%

2022 DHV

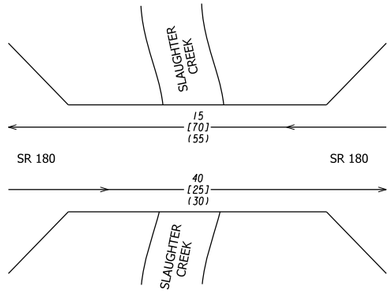


BUILD YEAR +2 2022 DHV
XXX = AM PEAK
[XXX] = MD PEAK
(XXX) = PM PEAK

BUILD VOLUMES ARE IDENTICAL TO NO-BUILD VOLUMES

SR 180	
Peak Hr Trucks	12.0%
SU	10.0%
COMB	2.0%

2042 DHV



DESIGN YEAR +2 2042 DHV
XXX = AM PEAK
[XXX] = MD PEAK
(XXX) = PM PEAK

BUILD VOLUMES ARE IDENTICAL TO NO-BUILD VOLUMES

SR 180	
Peak Hr Trucks	12.0%
SU	10.0%
COMB	2.0%

PI 0007055
UNION COUNTY
SEPTEMBER 24, 2015
KMC/WMR

Michael Baker INTERNATIONAL
3595 ENGINEERING DRIVE
NORCROSS, GEORGIA 30092
(770) 263-9118

REVISION DATES

TRAFFIC DIAGRAM

SR 180 BRIDGE REPLACEMENT

CHECKED:		DATE:		DRAWING No.
BACKCHECKED:		DATE:		10-002
CORRECTED:		DATE:		
VERIFIED:		DATE:		

BRIDGE INVENTORY REPORT

Processed Date:3/4/2015

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:291-0017-0 **Union** **SUFF. RATING: 56.40**

Location & Geography

Structure ID:	291-0017-0
200 Brdge Information:	06
*6A Feature Int: *6B Critical Bridge:	SLAUGHTER CREEK
*7A Route No Carried:	SR00180
*7B Facility Carried:	SR 180
9 Location:	9.4 MI SW OF BLAIRSVILLE
2 Dot District:	4841100000 - D1 DISTRICT ONE GAINESVILLE
207 Year Photo:	2014
*91 Inspection Frequency:	24 Date: 07/28/2014
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	60 Date: 07/28/2014
92C Other Spc. Insp Freq:	00 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	3 - State
Designation:	1- Mainline
Number:	00180
Direction:	0. Not applicable
*16 Latitude:	34.0000- 44.4276 HMMS Prefix:SR
*17 Longtitude:	83.0000- 58.5504 HMMS Suffix:00
	MP: 5.00
98 Border Bridge:	% Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	0- The Feature is not a STRAHNET route.
12 Base Highway Network:	1
13A LRS Inventory Route:	2911018000
13B Sub Inventory Route:	0.00
*101 Parallel Structure:	N. No parallel structure exists
*102 Direction of Traffic:	2- Two Way
*264 Road Inventory Mile Post:	005.02
*208 Inspection Area:	Area 01 Initials: JBC
Engineer's Initials:	kms
* Location ID No:	291-00180D-005.00N

*104 Highway System:	0- Inventory Route is not on the NHS
*26 Functional Classification:	7- Rural - Major Collector
*204 Federal Route Type:	S - Secondary. No: 00855
105 Federal Lands Highway:	0. Not applicable
*110 Truck Route:	0
206 School Bus Route:	0
217 Benchmark Elevation:	0000.00
218 Datum:	0- Not Applicable
*19 Bypass Length:	11
*20 Toll:	3- On a Free Road or Non-Highway
*21 Maintanance:	01-State Highway Agency.
*22 Owner:	01-State Highway Agency.
*31 Design Load:	2- H 15
37 Historical Significance:	5- Not eligible for the National Register of Historic Places
205 Congressional District:	9 - NINE
27 Year Constructed:	1931
106 Year Reconsrtucted:	0
33 Bridge Median	0-None
34 Skew:	0
35 Structure Flared:	No
38 Navigation Control:	0- Navigation is not controlled by an Agency
213 Special Steel Design:	0- Not applicable or other
267 Type of Paint:	5- Waterborne System (Type VI or VII)
*42 Type of Service On:	1-Highway
Type of Service Under:	5-Waterway
214 Movable Bridge:	0
203 Type Bridge:	A- Spread - O. Concrete M. Steel - O. Concrete
259 Pile Encasement	3
*43 Structure Type Main:	3-Steel 2-Stringer/Multi-Beam or Girder
45 No.Spans Main:	2
44 Structure Type Appr:	0- Other 0- Other
46 No Spans Appr:	0
226 Bridge Curve Horz	0 Vert: 0.00
111 Pier Protection	N - Navigation Control item coded 0, or Feature not a waterway
107 Deck Structure Type:	
108 Wearing Structure Type:	
Membrane Type:	
Deck Protection:	

Signs & Attachments

225 Expansion Joint Type:	02- Open or sealed concrete joint (silicone sealant).
242 Deck Drains:	1- Open Scuppers.
243 Parapet Location:	0- None present.
Height:	0.00
Width:	0.00
238 Curb Height:	1
Curb Material:	1- Concrete.
239 Handrail	1- Concrete. 1- Concrete.
*240 Median Barrier Rail:	0- None.
241 Bridge Median Height:	0
* Bridge Median Width:	0
230 Guardrail Loc. Dir. Rear:	3- Both sides.
Fwrd:	3- Both sides.
Oppo. Dir. Rear:	0- None.
Oppo. Fwrd:	0- None.
244 Aproach Slab	0- None.
224 Retaining Wall:	0- None.
233Posted Speed Limit:	25
236 Warning Sign:	1.00
234 Delineator:	1.00
235 Hazard Boards:	1
237 Utilities Gas:	00- Not Applicable
Water:	00- Not Applicable
Electric:	00- Not Applicable
Telephone:	00- Not Applicable
Sewer:	00- Not Applicable
247 Lighting Street:	0
Navigation:	0
Aerial:	0- Not a
*248 County Continuity No.:	00

Bridge Inventory Data Listing

Structure ID:291-0017-0

Programming Data

201 Project No: PR 114 (2)
202 Plans Available: 0- No Plans Available.
249 Prop Proj No: BRG-0007-00(055)
250 Approval Status: 0000
251 PI Number: 0007055
252 Contract Date: 02/01/1901
260 Seismic No: 00007
75 Type Work: 31- Replacement 1- Work to be done by contract due to load
94 Bridge Imp: Cost: $281
95 Roadway Imp. Cost: $28
96 Total Imp Cost: $422
76 Imp Length: 5351
97 Imp Year: 2013
114 Furure ADT: 495 Year:2032

Hydralic Data

215Waterway Data:
High Water Elev: 0000.0 Year:1900
Flood Elev: 0000.0 Freq:00
Avg Streambed Elev: 0000.0
Drainage Area: 00000
Area of Opening: 000000
113 Scour Critical U. No Load Rating; no scour critical data entered.
216 Water Depth: 3.5 Br.Height:9.5
222 Slope Protection: 0
221Spur Dikes Rear 0 Fwd:0
219 Fender System 0- None.
220 Dolphin:
223 Culvert Cover: 000
Type: 0- Not Applicable
No. Barrels: 0
Width: 0.00 Height:0
Length: 0 Apron:0
*265 U/W Insp. Area 1 Diver:JWO
*Location ID No: 291-00180D-005.00N

Measurements:

*29 ADT 330Year:2012
109 %Trucks: 1
* 28 Lanes On: 2 Under:0
210 No. Tracks On: 00 Under:00
* 48 Max. Span Length 36
* 49 Structure Length: 72
51 Br. Rwdy. Width 18.70
52 Deck Width: 19.90
* 47 Tot. Horiz. Cl: 19

50 Curb / Sidewalk Width 0.60 / 0.60
32 Approach Rdwy. Width 18
*229 Shoulder Width:
Rear Lt: 2.30 Type:8 - Rt:2
Fwd. Lt: 2.30 Type:8 - Grass Rt:2

Pavement Width:
Rear: 17.60 Type: 2- Asphalt.
17.60 Type: 2- Asphalt.
Intersaction Rear: 1 Fwd: 0
36Safety Features Br. Rail: 2- Inspected feature meets acceptable construction date standards.
Transition: 0- Does not meet standards
App. G. Rail: 2- Inspected feature meets acceptable construction date standards.
App. Rail End: 2- Inspected feature meets acceptable construction date standards.
53 Minimum Cl. Over: 99'99"
Under: N- Feature not a highway or railroad. 0.00'0.00"
*228 Minimum Vertical Cl
Act. Odm Dir:: 99 ' 99"
Oppo. Dir: 99' 99"
Posted Odm. Dir: 00' 00"
Oppo. Dir: 00'00 "
55 Lateral Undercl. Rt: N- Feature not a highway or railroad. 0.00
56 Lateral Undercl. Lt: 0.00
*10 Max Min Vert Cl: 99' 99" Dir:0
39 Nav Vert Cl: 000 Horiz:0
116 Nav Vert Cl Closed: 000
245 Deck Thickness Main 7.50
Deck Thick Approach: 0.00
246 Overlay Thickness: 2.00

212 Year Last Painted: Sup:1997 Sub:0000

65 Inventory Rating Method: 1-Load Factor (LF)
63 Operating Rating Method: 1-Load Factor (LF)
66 Inventory Type: 2 - HS loading. Rating: 29
64 Operating Type: 2 - HS loading. Rating: 48
231Calculated Loads:
H-Modified: 21 0
HS-Modified: 32 0
Type 3: 24 0
Type 3s2: 37 0
Timber: 33 0
Piggyback: 40 0
261 H Inventory Rating: 19
262 H Operating Rating 32
67 Structural Evaluation:
58 Deck Condition: 4 - Poor Condition
59 Superstructure Condition: 6 - Satisfactory Condition
* 227 Collision Damage:
60A Substructure Condition: 5 - Fair Condition
60B Scour Condition: 7 - Good Condition
60C Underwater Condition 5 - Fair Condition
71 Waterway Adequacy: 8-Equal to present desirable criteria.
61 Channel Protection Cond.: 8
68 Deck Geometry:
69 UnderClr. Horz/Vert:
72 Appr. Alignment: 4-Between 6 and 3
62 Culvert: N - Not Applicable

Posting Data

70 Bridge Posting Required 5. Equal to or above legal loads
41 Struct Open, Posted, CL: A. Open, no restriction
* 103 Temporary Structure: 0
232 Posted Loads
H-Modified: 00
HS-Modified: 00
Type 3: 00
Type 3s2: 00
Timber: 00
Piggyback 00
253 Notification Date: 02/01/1901
258 Fed Notify Date: 02/01/1901

PREL. PAVEMENT DESIGN

Flexible Pavement Design Analysis

PI Number	0007055	**County(s)**	Union
Project Number	CSBRG-0007-00(055)	**Design Name**	SR 180 @ Slaughter Creek Preliminary
Project Description	SR 180 @ Slaughter Creek		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2020	**Initial AADT, VPD**	470	**24 Hour Truck %**	8.00	**Lanes in one direction**	1
Final Design Year	2040	**Final AADT, VPD**	870	**SU Truck %**	6.50	**Curb & Gutter/Barrier**	No
		Mean AADT, VPD	670	**MU Truck %**	1.50		

Design Data					
Lane Distribution Factor (%)	100.00	**Soil Support Value**	2.50	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	2.20	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	0.62	**Calculated 18-KIP ESAL**	0.61
Non-Standard Value Comment					

Design Loading (Calculated 18-KIP ESAL)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
670	100.00	Single Unit Truck	6.50	0.40	18
		Multi Unit Truck	1.50	1.50	16
				Total Daily ESALs	34
				Total Design Period ESALs	248,200

Proposed Flexible Full Depth Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Course 1	9.5 mm Type I Superpave	1.25	0.4400	0.55
Course 2	19 mm Superpave	2.00	0.4400	0.88
Course 3	25 mm Superpave	1.25	0.4400	0.55
		1.75	0.3000	0.53
Course 4	Graded Aggregate Base	8.00	0.1600	1.28

Required SN	3.83	**Proposed pavement is 1.30% Underdesigned**	**Proposed SN**	3.79

Design Remarks	

Prepared By 9/28/2015 10:45 AM

Steve Linley **Date**

Recommended By

Office Head **Date**

Approved By

State Pavement Engineer **Date**

Filename: P:\LEI PROJECTS\0026-0010 SR180 at Slaughter Creek\02 - Design Files\02.03 - Computations & Documentation\02.03.16 - Pavement Design\00070

CONCEPT TEAM MEETING

Georgia Department of Transportation

CONCEPT TEAM MEETING AGENDA For PI 0007055- Union County

Monday October 26, 2015

10:00 a.m.

Meeting Location: District 1 Office large conference room located at 2505 Athens Highway, Gainesville, GA 30507

1. Welcome – Dylan Curtis, GDOT Project Manager
2. Sign-in sheet
3. Attendee (self) Introduction
   a. Project Identification – Georgia Department of Transportation (GDOT) and Jackson County
   b. Project Name: SR 180 @ Slaughter Creek
   c. Project Type – Bridge Replacement
   d. Project County: Union County
   e. Project Identification Number: 0007055
4. Schedule – Dylan Curtis, GDOT Project Manager
5. Review Concept Report – Design Team
6. Review Concept Layout – Design Team
7. Assess Project Risks – Project Team
8. Review Public Involvement Plan (if applicable) – Project Team
9. Comments/questions (from attendees in the following order)

   a. Local Government Officials
      - State
      - County
      - City
   b. Office of Design Policy and Support
   c. Office of Planning
   d. Office of Financial Management
   e. Office of Engineering Services
   f. Office of Traffic Operations
   g. Office of Environmental Services
   h. District Preconstruction
   i. Office of Right of Way
   j. Office of Construction
   k. GDOT Office of Utilities
   l. Individual Utility Companies (in attendance)
   n. Other attendees

Note: Project Site Visit to follow concept team meeting

PI #: 0007055
Union County

Date of Meeting: 10/26/2015

Location of the Meeting:
Georgia Dept. of Transportation District 1
2505 Athens Highway, SE
Gainesville, GA

1. Purpose of Meeting

- Concept Team Meeting

2. Attendance at Meeting

Name	***Company***
See Attached Sign-In Sheet	

3. Meeting Notes

The purpose of the Concept Team meeting was to discuss the project schedule, need and purpose, proposed design criteria, potential right-of-way, environmental and utility impacts, review alternatives and discuss the public involvement. Dylan Curtis opened the meeting at 10:00 AM and began with the attendees introducing themselves. The meeting was then turned over to Steve Linley to discuss the Concept Report. The following summarizes the meeting:

Project Identification: The project which is located on SR 180 @ Slaughter Creek adjacent to the Winfield Scott Recreational Area will reconstruct the bridge at this location.

The team discussed the following:

1. There is a bridge replacement project in Lumpkin County along the proposed detour route that must be coordinated with this project.
2. Chris Busbee of Blue Ridge Mountain EMC stated that two additional utility companies use their poles, Windstream Telephone for phone and data, and North Georgia Networks has a Fiber Optic line. It appears from the conceptual engineering that 2-3 poles will need to be relocated.
3. Harold Mull, District Construction Engineer, stated that Accelerated Bridge Construction Techniques (ABC) would most likely not be beneficial due to the time duration needed to construct the proposed retaining walls.
4. Further coordination is required with the U.S. Forest Service to define what they consider as part of the public recreational area.

5. Audrey Van mentioned that the Six Gap Century and Three Gap Fifty bicycle races are held in the last week of September. At this point the project team has not reached out to local officials regarding the race.
6. There was a general discussion on the construction schedule. The local officials have expressed an interest in keeping the roadway open during the autumn foliage season. It is estimated that construction on the project will take approximately nine months. Pushing the Letting back to accommodate this request would mean going into the next fiscal year. Ms. Curtis mentioned Letting the project on schedule but delaying NTP until November.

The meeting was then concluded.

C: File 0026-0010

0007055 Concept Team Mtg. 10/26/15

Dylan Curtis	GDOT	404)631-1606	DCurtis@dot.ga.ga
Kurk Coley	GDOT	770 531 5748	KColey@dot.ga.gov
William Hunter	GDOT	770-531-5795	wihunter@dot.ga.gov
Larry Robinson	Windstream Comm	706-867-3300	larry.robinson@windstream.com
Steve Linley	Long	770 335-1428	slinley@longeng.com
Audrey Van	Atkins	678-247-2473	Audrey.Van@atkinsglobal.com
Lynn Palmer	GDOT	770-531-5752	jlpalmer@dot.ga.gov
Kevin D York	GDOT R/W	770-531-5784	Kevyork@dot.ga.gov
Janet Burns	GDOT	>70-531-5814	JBurns@dot.ga.go.
Justin Lott	GDOT	770-531-5745	jlott@dot.ga.gov
Sammy Powell	Long Eng	770.948-3591	spowell@longeng.com
HAROLD D. MULL	GDOT - CONST.	770-531-5769	hmullc dot.ga.gov
Colton Payne	BRMEMC	706-635-7156	Colton.payne@brmemc.com
Chris Busbee	BRMEMC	706-781-4451	Chris.busbee@brmemc.com

COORDINATION MEETINGS

Meeting notes

Project:	SR 180 Bridge Replacement at Slaughter Creek		
Subject:	US Forest Service (USFS) Coordination		
Date and time:	May 11, 2015 at 11:00AM	**Meeting no:**	1
Meeting place:	USFS Blue Ridge District Office	**Minutes by:**	Audrey Van
Present:	Valencia Morris Jake Cowart Becky Bruce-Vaughters Jim Wentworth Andy Baker Zachary Adriaenssens Steve Linley Wendy Dyson Audrey Van Henry Borovich	**Representing:**	USFS Recreation Program Manager USFS Lands & Special Uses Specialist USFS Archaeologist USFS Wildlife Biologist USFS District Ranger GDOT Long Engineering Atkins Atkins Atkins

A. After introductions, Mr. Linley started a discussion of the proposed project and the anticipated issues with the replacement of the SR 180 bridge. The design for the proposed project is in the preliminary stages. An off-site detour is anticipated. The need for the proposed project is to replace a structurally deficient bridge. If possible, the bridge replacement project could also correct some of the curvature of the roadway immediately to the west of the existing bridge. A Concept Team meeting is anticipated for April/May 2016. USFS would be invited to the Concept Team meeting as a stakeholder. Mr. Baker inquired if a temporary or on-site detour was possible. Mr. Linley stated they would be analysing if a one lane operation controlled by a signal would be feasible but it depends on the site conditions and environmental constraints. A public meeting will be held after the Georgia Department of Transportation (GDOT) Concept Report is approved. Ms. Van stated construction was currently scheduled for 2018.

B. The level of NEPA document was discussed for USFS standards. Mr. Baker stated he would need to look into what document would be appropriate. Ms. Dyson stated a Categorical Exclusion (CE) was anticipated for the proposed project which would be submitted to the Federal Highway Administration (FHWA). Mr. Wentworth stated Environmental Assessments were what NEPA documents USFS has typically used for other projects. Mr. Cowart stated for projects that require less than five acres of USFS property, a CE would be sufficient. Mr. Linley stated the proposed project would require less than five acres. USFS would utilize the Department's special studies and NEPA document to prepare their own NEPA document for the needed special use permit.

C. Ms. Dyson inquired about the specific approvals required by the USFS, specifically asking about history, archaeology, and ecology documents. Ms. Bruce-Vaughters stated she would review the archaeological and historic survey reports and would need to submit her approval of them. This would also include the assessment of effects for cultural resources that would be prepared for GDOT. An ARPA permit would be required for archaeological activities on federal lands. Mr. Wentworth stated he would follow the same procedure with regard to ecology documents. He would also prepare a Biological Evaluation for the USFS NEPA process. The USFS Biological Evaluation would use data collected from the GDOT ecology survey and assessment of effects reports. Ms. Bruce-Vaughters stated she would also prepare a USFS cultural resources document using GDOT cultural resources survey data.

D. Mr. Cowart stated USFS would charge a cost recovery fee for preparation of USFS documents to analyze any impacts and required right-of-way (ROW) or easement of USFS property. This fee would include review of special studies and NEPA documents for GDOT and FHWA approval. Submittal of form SF 299 would be required along with applicable fees. GDOT would be required to submit permits and costs for the proposed project. Outside of the environmental studies, USFS requires a permit for tree removal and geotechnical work on USFS property. Clearing limits would need to be delineated to determine the number of trees that would be removed.

E. ROW acquisition would also require a cost recovery fee and the appropriate USFS paperwork. Mr. Cowart stated the existing SR 180 passes through USFS land on a special use permit. The original permit has a ROW width of 132 feet. There was a discussion of how land would be acquired from

USFS. The original permit could be amended to add additional ROW for the proposed project. For any easement required, a special use permit would be required and can be purchased as a 20-year term.

F. SR 180 uses the Lake Winfield Scott dam embankment to cross Slaughter Creek. Lake Winfield Scott and certain public uses of USFS land are considered a recreational resource under FHWA guidelines. The main recreation area of Lake Winfield Scott is located further upstream from the proposed project. The former entrance to Lake Winfield Scott is located adjacent to the western approach to the bridge. The former entrance area currently has a dock for fishing, several parking spaces, restrooms, and a bulletin board. Mr. Baker stated that the area can be walked to via a gravel road that does not allow public vehicular access. Americans with Disabilities Act (ADA) access is only available via the entrance adjacent to the Slaughter Creek bridge. Mr. Baker asked if access could be maintained to the area during construction. Mr. Linley stated he would research the possibility, although, the location is not favorable to remain open during construction. Mr. Borovich asked if access would be possible using the gravel road that connects to the main park area. Mr. Cowart stated the road is not suitable for public use and bollards would need to be removed. Further improvements would be needed to allow public vehicular access.

G. Mr. Adriaenssens asked if there were any trails that are near or connect to the bridge. Mr. Baker stated the Lake Winfield Scott Trail connects to the bridge as part of the trail. Mr. Borovich inquired what the peak season was for the Lake Winfield Scott area. Ms. Bruce-Vaughters stated the area is busiest during the Fall months, although, the area is consistently busy from May to October. She stated many bicyclists and motorcyclists utilize SR 180 for scenic, recreational rides. Mr. Cowart mentioned the Lumpkin County Chamber of Commerce bicycle race as a potential event to communicate with many of the cyclists who enjoy the area and utilize the nearby roads.

H. Ms. Van asked about known history, archaeology, and ecology features on the USFS land. Mr. Wentworth stated that in addition to federal and state listed protected species, the USFS regulates additional species classified as USFS sensitive species. He stated he would provide the list of USFS sensitive species to Atkins for the ecology survey. Ms. Van asked about the age of the structures and buildings at Lake Winfield Scott. Ms. Bruce-Vaughters stated many of the buildings were built by the Civilian Conservation Corps (CCC). The bathhouse and small pavilion would have been built by the CCC circa 1936-38. The spillway, north of the bridge, was also built by the CCC during the same time period. The large pavilion was built circa 1966.

I. Mr. Linley stated he would share the design of the bridge prior to the Concept Meeting in Spring 2016. Ms. Bruce-Vaughters requested that the bridge design fit in character with the surrounding areas and the existing bridge. A request was also made by the USFS for pedestrian and/or bicycle access on the bridge. Mr. Linley also stated the dam for Lake Winfield Scott is not anticipated to be affected.

Attachments: Meeting Agenda, Meeting Sign-in sheet for USFS

ITEM	DESCRIPTION & ACTION	DEADLINE	RESPONSIBLE
1	Invite USFS to Concept Team Meeting in Spring 2016	Prior to Concept Team Meeting	Steve Linley

Next meeting:	Initial Concept Team Meeting		
Distribution:	Meeting Attendees		
Date issued:	May 13, 2015	**File ref:**	SR 180 Bridge Replacement

NOTE TO RECIPIENTS:
These meeting notes record Atkins understanding of the meeting and intended actions arising therefrom.
Your agreement that the notes form a true record of the discussion will be assumed unless adverse comments are received in writing within five days of receipt.

Agenda

Project:	PI 0007055, Slaughter Creek Bridge Replacement		
Subject:	US Forest Service (USFS) Coordination		
Date and time:	11:00AM, May 11, 2015	**Meeting no:**	1
Meeting place:	USFS Blairsville Office	**Minutes by:**	Atkins
Attendees:	Valencia Morris Zachary Adriaenssens Sammy Powell Steve Linley Wendy Dyson Audrey Van Henry Borovich	**Representing:**	USFS GDOT Long Engineering Long Engineering Atkins Atkins Atkins

ITEM	DESCRIPTION	RESPONSIBLE
1	Introductions	Audrey Van
2	Proposed Project and Detour Description	Sammy Powell
3	Potential Impacts and required ROW from USFS property	Sammy Powell
4	Environmentally or NEPA sensitive areas near the proposed project	Audrey Van
5	USFS Concerns about proposed project	Valencia Morris
6	USFS known ecology or archaeology sites near the proposed project	USFS
7	USFS requirements for NEPA approval and ROW from USFS	Valencia Morris
8	Coordination needed with USFS going forward	Valencia Morris/ Wendy Dyson

Name	Company	Email
JAKE COWART	USFS	jcowart@fs.fed.us
Becky Bruce-Vaughters	USFS	bbruce02@fs.fed.us
Jim Wentworth	USFS	jwentworth@fs.fed.us
Andy Baker	USFS	albaker@fs.fed.us
Valencia Morris	USFS	vcmorris@fs.fed.us

Meeting notes

Project:	SR 180 Bridge Replacement at Slaughter Creek		
Subject:	Off-site detour for SR 180 Bridge Replacement		
Date and time:	May 11, 2015 at 1:30pm	**Meeting no:**	1
Meeting place:	Union County Fire Department, Station #1	**Minutes by:**	Audrey Van
Present:	Wesley Rogers Mike Thomason A. Brent Long Richard Jones Stanley Garrett Zachary Adriaenssens Steve Linley Wendy Dyson Audrey Van	**Representing:**	Union General EMS Union County Commissioners' Office Union County Fire Department (UCFD) UCFD Union County Schools GDOT Long Engineering Atkins Atkins

The meeting was an open format meeting to discuss comments or concerns individual agencies or organizations may have about the proposed detour. The following comments are grouped by organization.

1. Union General EMS – The Union General EMS representative, Mr. Rogers, was made aware of the off-site detour for SR 180. UCFD later stated that they have local paramedics in the Suches area. The Suches paramedics are typically first to the Suches' emergencies and would continue to be first to arrive to Suches' emergencies during the detour.
2. Union County Commissioners' Office – The Union County Commissioners' Office representative, Mr. Thomason, commented on the great distance of the off-site detour. He asked if the Union County Roads Department had been contacted. Ms. Van responded they had not. He received extra copies of the proposed detour route to distribute to the Commissioners' Office and Roads Department.
3. Union County Fire Department – The UCFD representatives, Mr. Long and Mr. Jones, were asked by Ms. Van and Mr. Adriaenssens what calls are typically received from the SR 180 and Suches area that are responded to by fire stations located in Blairsville. Mr. Long stated the two Suches area volunteer fire stations respond to calls in the area. Blairsville fire stations would only be called in if a fire was substantial or there were multiple fires in the area. Two UCFD paramedics are also located in the Suches area to assist with medical emergencies. Ms. Van inquired if the UCFD would battle fires on US Forest Service (USFS) land. Mr. Long replied the USFS has firemen on staff to handle fires on the USFS lands. Although, the USFS may call on the UCFD if a fire on USFS land nears private property. Private property owners in the area would be the UCFD's responsibility. The Georgia Forestry Commission also assists with prescribed burning on private forested land. Mr. Long stated the UCFD may be called to Lake Winfield Scott for a medical emergency even though this would be on USFS land.
4. Union County Schools – The Union County School was represented by the Transportation Director, Mr. Garrett. He stated SR 180 is not a frequently used route for Union County Schools. During the winter months, SR 60 is the preferred route to reach Suches. During the summer months, Skeenah Gap Road is also used along with SR 180. Union County Schools only have two trips per day in the area for special needs children attending school in Blairsville. The majority of local children in Suches attend Woody Gap School, a kindergarten through 12th grade facility. There is one student on SR 180 that is transported to Blairsville. However, she lives approximately one mile from Suches and if the detour is in place the bus could turn around and follow the detour route. Mr. Garrett and Mr. Long of the UCFD inquired about straightening the curve to the bridge approaching from the west. Mr. Garrett stated during his 38 year career at the Union County Schools there has been two collisions involving buses near the Slaughter Creek bridge. Both collisions were minor and occurred at slower speeds.

ITEM	DESCRIPTION & ACTION	DEADLINE	RESPONSIBLE
1	Inform Local Officials of Public Meetings	Prior to Public Meeting	Audrey Van
2	Inform Union County Road Department about Proposed Project	June 15, 2015	Audrey Van

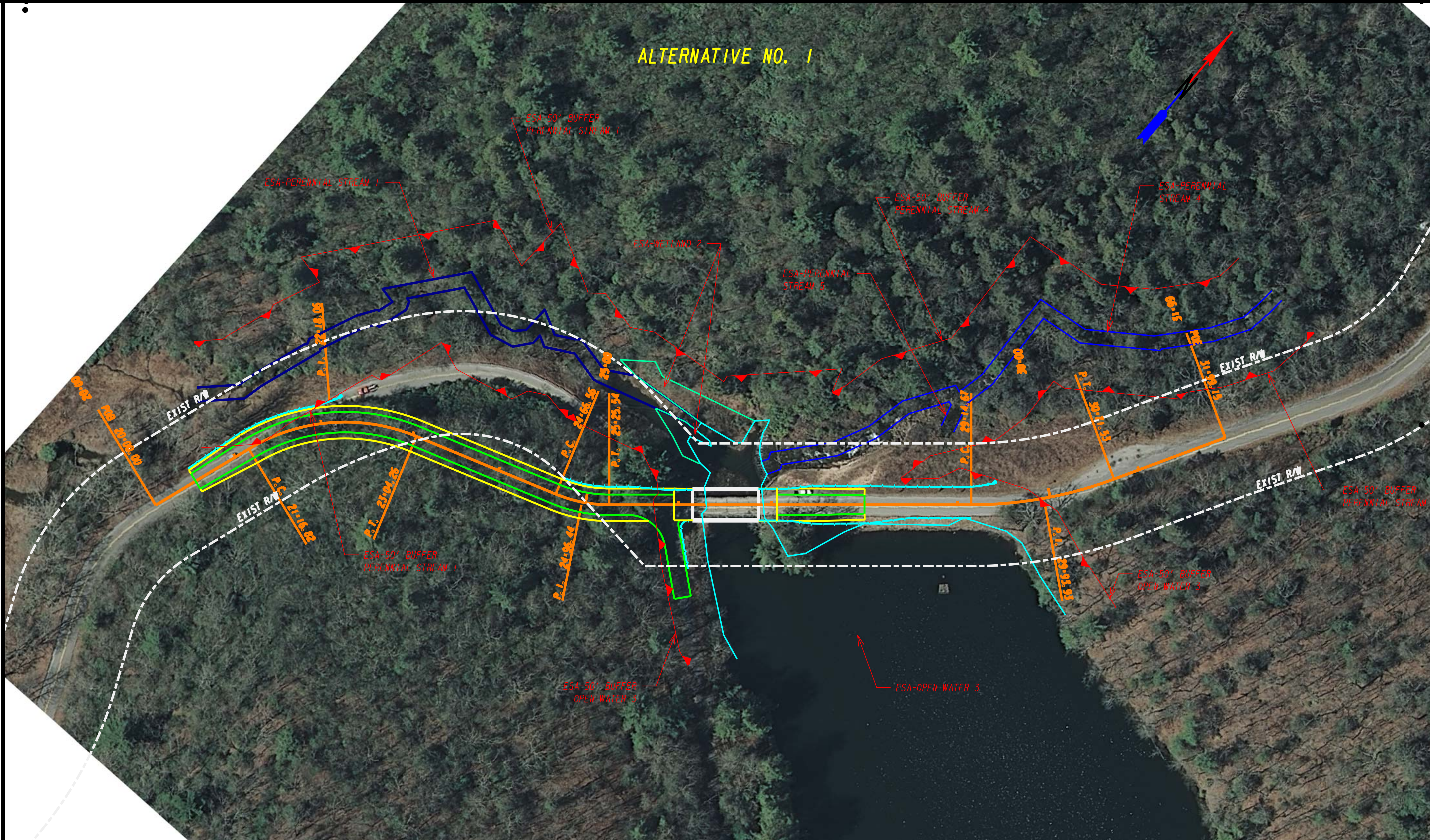
Next meeting:	Public Meeting for SR 180 Bridge Replacement		
Distribution:	Meeting attendees		
Date issued:	5/15/15	**File ref:**	SR 180 Bridge Replacement

NOTE TO RECIPIENTS:
These meeting notes record Atkins understanding of the meeting and intended actions arising therefrom.
Your agreement that the notes form a true record of the discussion will be assumed unless adverse comments are received in writing within five days of receipt.

Name	Organization	Email
Wesley Rogers	Union General EMS	wesr.ems@gmail.com
Mike Thomason	Union Co. Commission Office	MT@Unioncgov.com
A. Brent Long	Union Co. Fire Dept.	ucfdtraining@unioncgov.com
Richard Jones	UCFD	ucfdcaptain@unioncgov.com
Stanley Garrett	Union Co Schools	SGarrett@UCSchool.org

ALTERNATIVES 1 -3

DATE$$$	TIME$$$	$PRF$$	DGN	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GA			



PROPERTY AND EXISTING R/W LINE		BEGIN LIMIT OF ACCESS..............BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS..............ELA	
CONSTRUCTION LIMITS	C F	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		REQ'D R/W & LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		ORANGE BARRIER FENCE	
EASEMENT FOR CONSTR OF DRIVES		ESA - ENV. SENSITIVE AREA (SEE ERIT 4-)	

LONG ENGINEERING, INC.

SCALE IN FEET
0 50 100 200

REVISION DATES

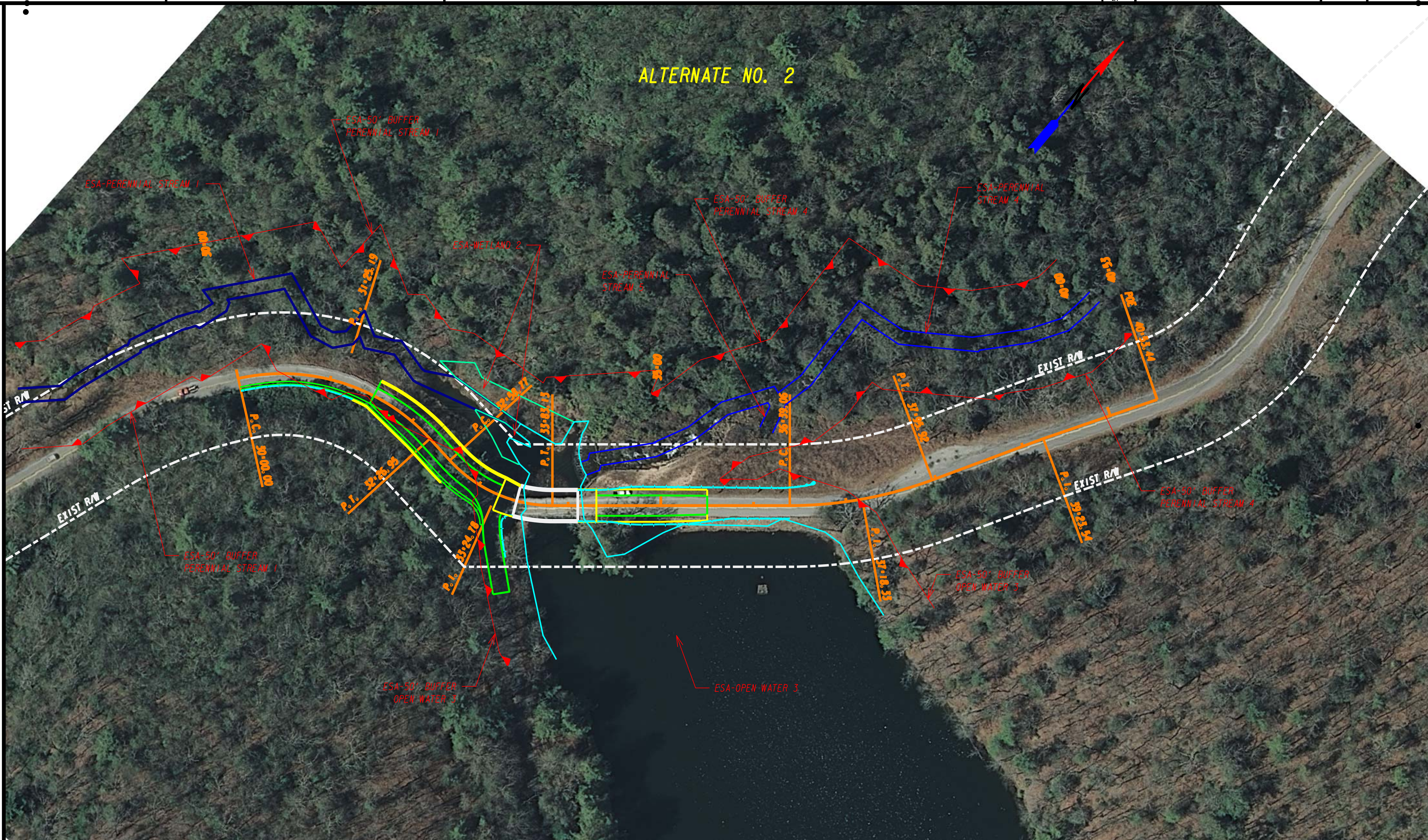
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

DRAWING No.

DATE$$$ TIME$$$ $USER$	PRF $$PENTABLE$$	DGN	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			GA			



PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS..............BLA
END LIMIT OF ACCESS..............ELA
LIMIT OF ACCESS
REQ'D R/W & LIMIT OF ACCESS
ORANGE BARRIER FENCE
ESA - ENV. SENSITIVE AREA (SEE EXHIBIT 4-)

LONG ENGINEERING, INC.

SCALE IN FEET
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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
MAINLINE PLAN
DRAWING No.

DATE$$$ TIME$$$	$PRF$$	DGN	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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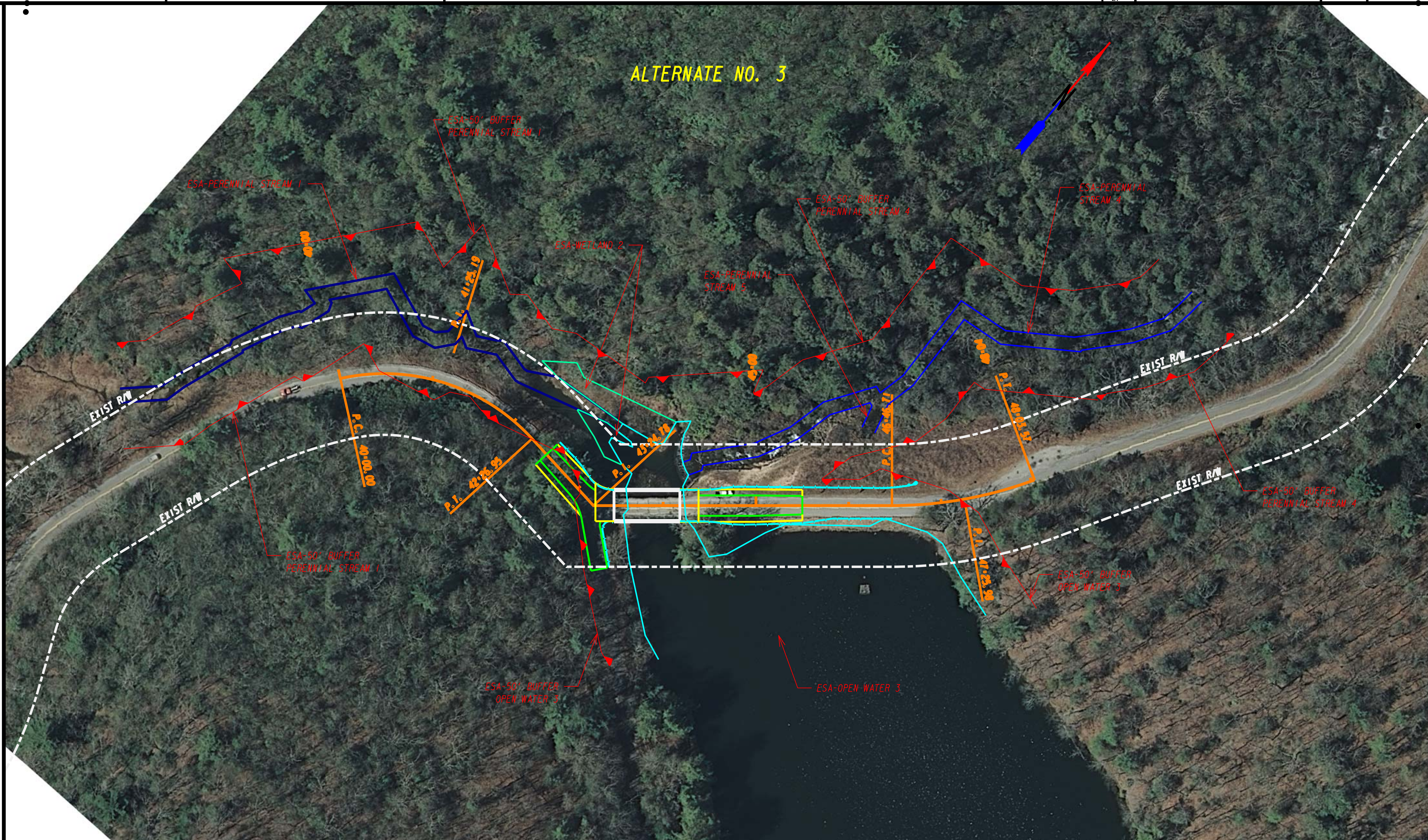

PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
REQ'D R/W & LIMIT OF ACCESS	
ORANGE BARRIER FENCE	
ESA - ENV. SENSITIVE AREA (SEE ERIT 4-)	

LONG
ENGINEERING, INC.

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

DRAWING No.

13-OCT-2015	13:48	$PRFB$	P:\LEI PROJECTS\0526-0010 SR180 at Slaughter Creek\02 - Design Files\01 - DGN\01 -	P:\LEI PROJECTS\0526-0010 SR180 at Slaughter Creek\02 - Design Files\01 - DGN\01 - Roadway\0007055_Prof_Exhbits.dgn	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
slinley			Roadway\GaDOT_Rdwy.pen		GA			

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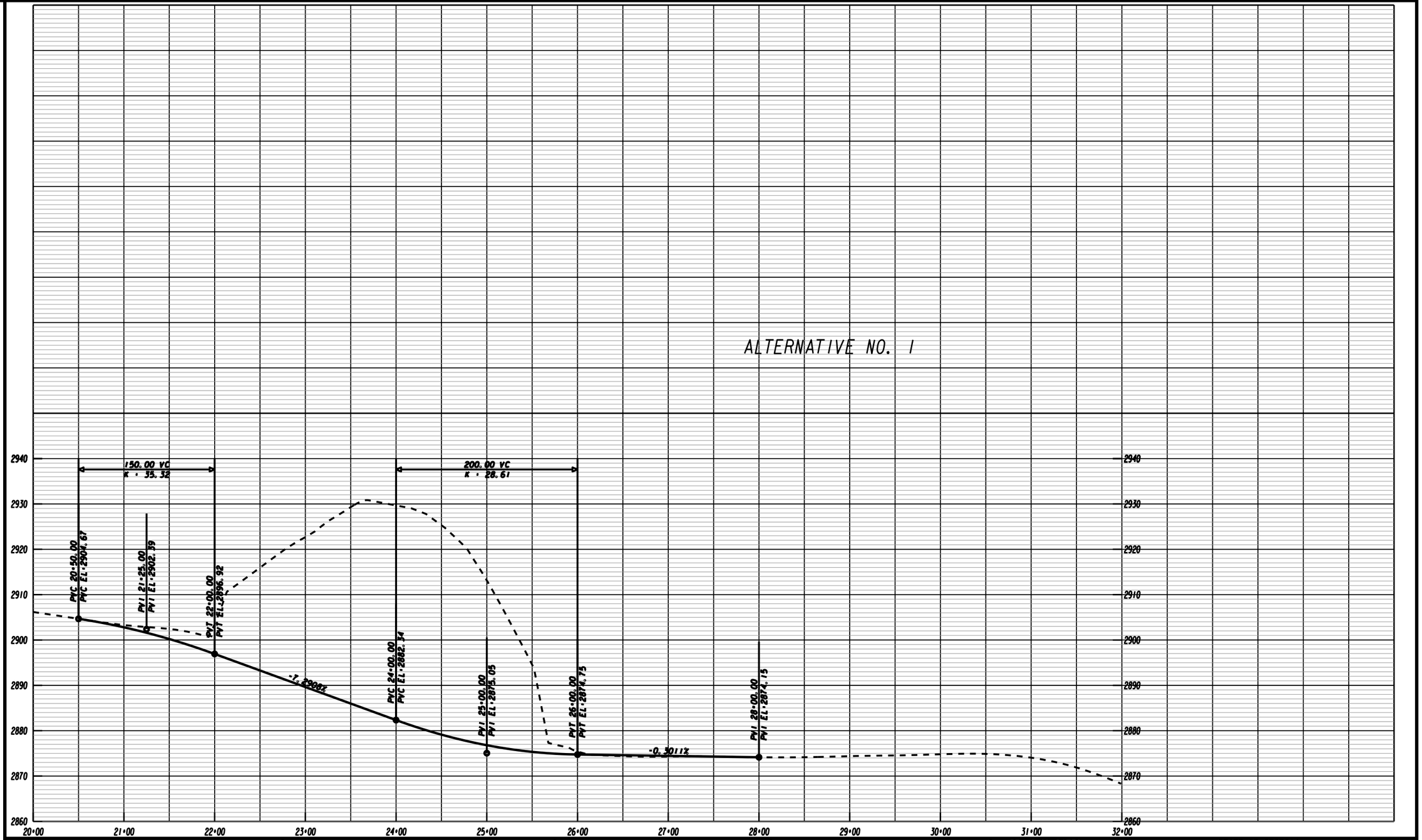
ALTERNATIVE NO. 1



LONG ENGINEERING, INC.

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REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PROFILE

DRAWING No. 15-002

11/30/2011 GRIEGG

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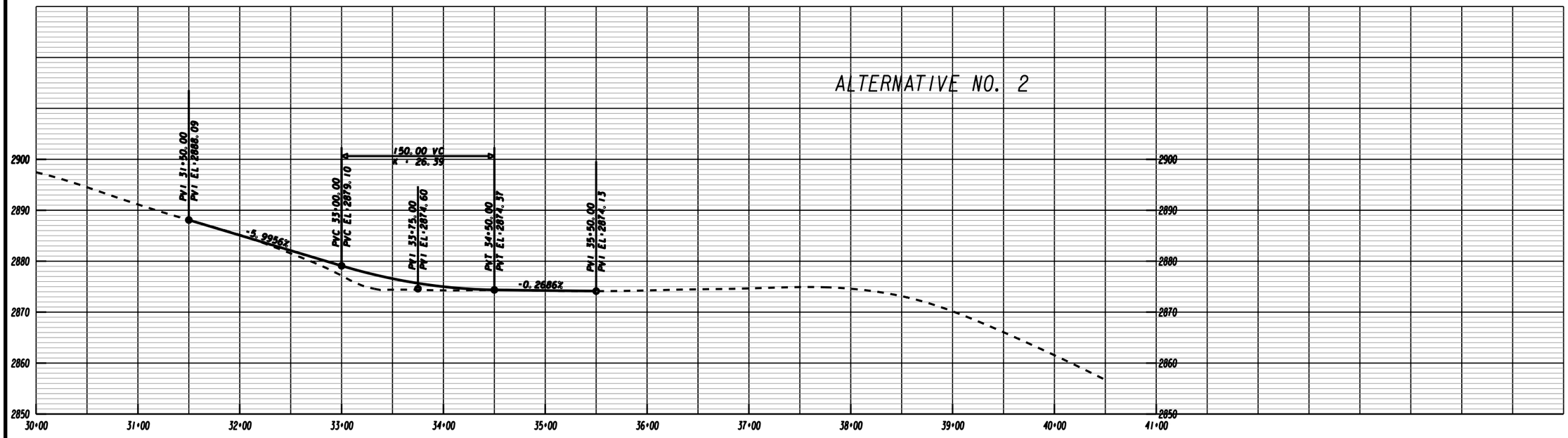

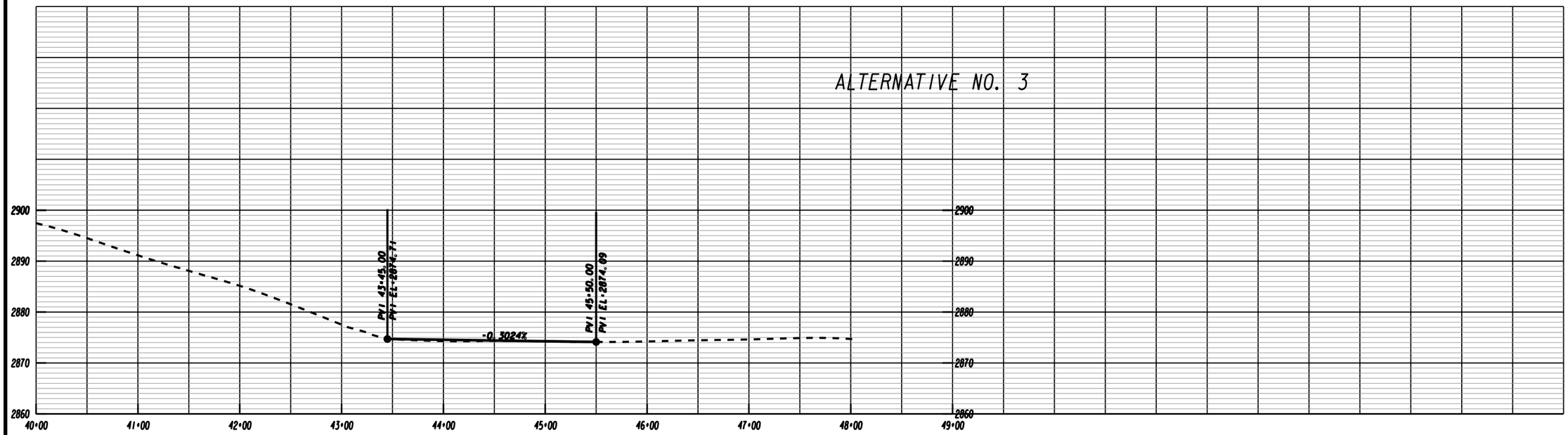

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VERT: 1"=10'

REVISION DATES		

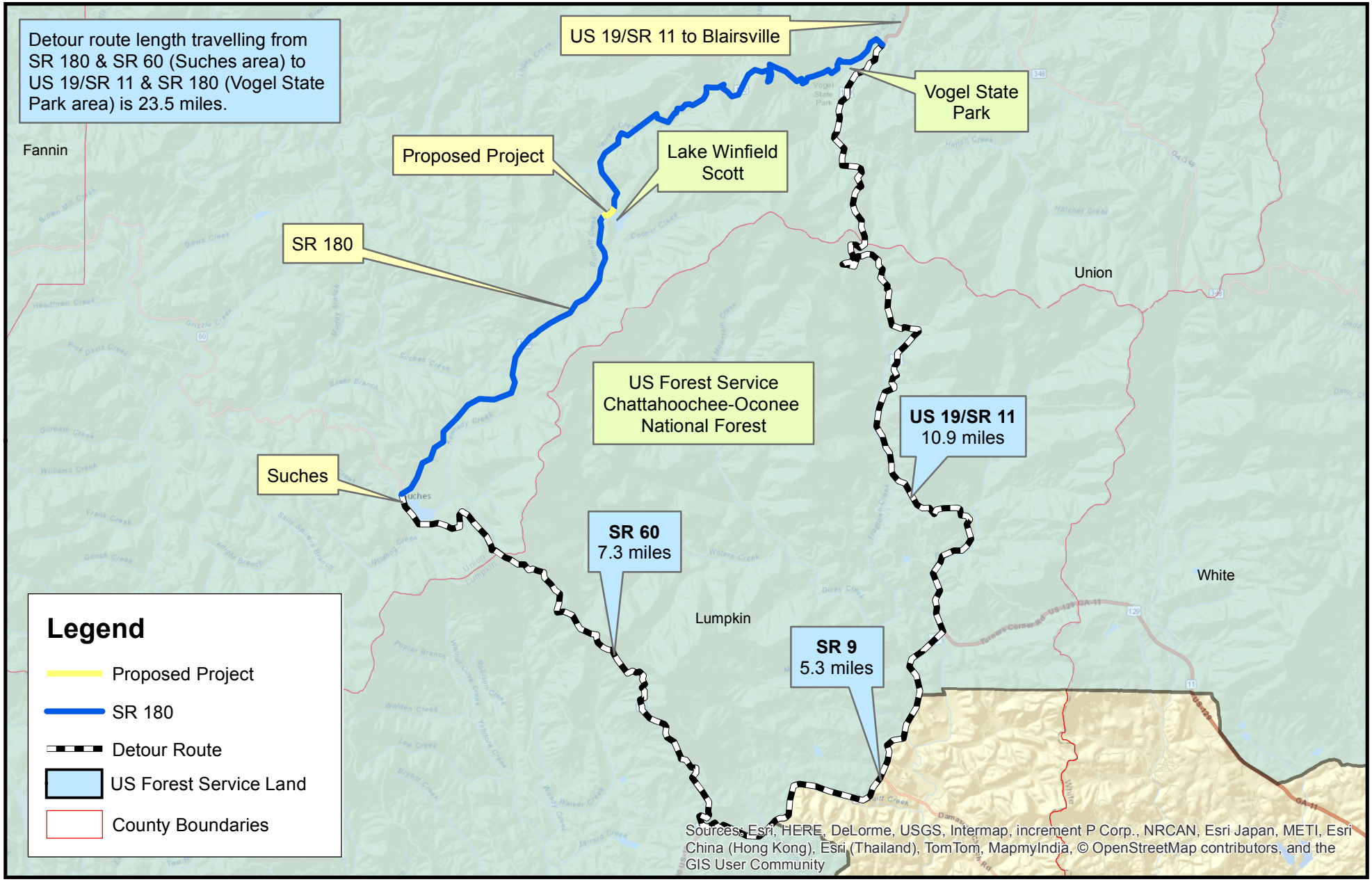
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

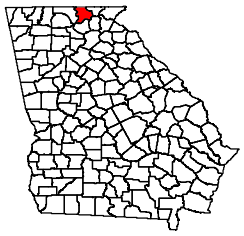
MAINLINE PROFILE

DRAWING No.
15-003

11/30/2011 GR2EDG

PROPOSED DETOUR





Source: USDA Quad, 2013

0 0.5 1 2 3

Miles 1 inch = 8,986 feet

SR 180 Bridge Reconstruction over Slaughter Creek GDOT Project PI # 0007055 Union County, GA

Figure 2: Detour Map

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